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CardioVascular Journal of Africa (official journal for PASCAR)

15TH PASCAR CONGRESS

in association with

KENYA CARDIAC SOCIETY

22nd - 25th November 2021 | Mombasa, Kenya





WELCOME REMARKS FROM PASCAR PRESIDENT

Dear colleagues and friends, Welcome to the PASCAR Congress 2021 together with KCS and in association with WHF- World Heart Summit. It is an exciting time for all of us to be in Mombasa one of the most attractive locations in East Africa.

The congress scientific committee has put together the very latest cardiovascular science and innovation there is. Our guests as you will find out include experts in each and every discipline from all over Africa and other parts of the world. We hope that the conference will highlight and discuss the outcomes of recently published practice changing cardiology clinical trials and guidelines.

For the purpose of continuous education, the congress activities are structured to include dedicated pre-conference workshops. The congress programme committee has assembled a faculty of world experts in cardiac imaging, electrophysiology and heart failure management.

Though this is our first experience with hybrid conferences, due to COVID 19 pandemic, we have great expectations and we look forward to the most successful, informative and exciting congress.

During the coming four days, you will meet new colleagues, make valuable connections and discover better ways to care for your patients.

On behalf of my colleagues in the congress management committee, I would like to welcome our speakers, delegates and guests. We hope that you will give us the opportunity to welcome you in Kenya and truly express our people's warmth and hospitality.

DR. SAAD

SUBAHI (FRCP, FESC)

PRESIDENT

PASCAR
(Pan-African Society of Cardiology)



WELCOME REMARKS FROM KCS PRESIDENT

Dear Colleagues, Ladies and Gentlemen,

On behalf of the Kenya Cardiac Society, I am delighted to welcome you all to the 2021 Pan African Society of Cardiology (PASCAR) and the Kenya Cardiac Society (KCS) Scientific Congress. Due to the current global Covid 19 pandemic this congress will be held in a hybrid format with attendees participating in person and virtually.

The joint PASCAR & the KCS executive has worked tirelessly to arrange this meeting and I genuinely hope this new hybrid experience in conferencing will meet your educational needs. The Scientific and Program committee has worked very hard to prepare a program that is unique and one that will offer you an opportunity to advance your knowledge in cardiovascular care.

I wish to remind you this is your congress, and the organizing committee has tried to adopt the program to meet the needs of all our members across the whole context of cardiovascular care. My hope is that this meeting serves to be very interactive, lively and very rewarding in knowledge that will directly impact how patients are treated and their lives improved.

This Congress has always lived to its expectation as the largest cardiovascular academic platform in Africa for sharing achievements, exchanging experiences and networking. The Kenya Cardiac Society is proud and privileged to host the 2021 PASCAR Congress. Furthermore, The Kenya Cardiac Society Congress has been the most influential Scientific Meeting in the East African Region and we hope to remain that way.

Welcome to Kenya, welcome to Mombasa City
Karibuni Sana

Thank You

DR BERNARD M.

GITURA (FACC, FESC)

PRESIDENT

Kenya Cardiac Society



STATEMENT FROM THE SCIENTIFIC COMMITTEE CHAIR

It is my privilege to serve as the chairman of the scientific organizing committee of this auspicious meeting. The conference organizing team have worked hand-in-hand with clinicians and scientists from across the continent and indeed from around the world to deliver what we hope will be an exciting, informative, and practice-influencing program.

The collaborative nature of this Congress emphasizes the theme of the meeting – "Collaboration through research and training". To this end, we are proud to be partnering with the American College of Cardiology (ACC), the European Society of Cardiology (ESC), the European Heart Journal (EHJ) and of course the World Heart Federation (WHF).

Within PASCAR are taskforces representing cardiovascular diseases or disciplines. The congress programme has emphasized collaboration across the task forces so that certain disease topics will bring in a Heart Team with representatives across the various disciplines.

This meeting we hope to be PASCAR with a Mombasa flavor and we welcome you to enjoy our hospitality which we hope will provide a backdrop for important networking from which the seeds or further collaboration can be sown.

DR. MOHAMED

JEILAN (FRCP)

CHAIRMAN

Congress Committee



PASCAR 2021

THEME

**ADVANCING CARDIOVASCULAR CARE IN AFRICA
THROUGH COLLABORATIVE RESEARCH AND TRAINING**



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ABOUT THE CONGRESS

The joint 15th PASCAR and KCS Congress 2021 seeks to bring together key players from the healthcare ecosystem, and provide a conducive environment to facilitate a cutting-edge learning experience in cardiovascular medicine and surgery.

The Congress will kick off with the 6th World Heart Summit, organized by the World Heart Federation, a convening of thought leaders to elevate the world's number one killer as the top global health priority.

22ND NOVEMBER – PRE-CONGRESS – WHF SUMMIT AND PARALLEL WORKSHOPS

08:00 – 15:00 (PARALLEL SESSIONS)

WORLD HEALTH FEDERATION SUMMIT
Room: Arabuko 1

Scientific Rapporteur: Dr. Redemptar Kimeu

COHORT STUDIES IN AFRICAN RESEARCH - COURSE
AFRICAN HEART FAILURE WORKSHOP
Room: Shimba

CARDIOVASCULAR IMAGING WORKSHOP
Room: Arabuko 2

- Session 1: TOE
- Session 2: Cardiac CT
- Session 3: Cardiac MRI

Scientific Rapporteur: Dr. Barbara Karau

BREAK AT 15:00 TO JOIN PLENARY

15:30 – 19:30 (CONGRESS OPENING PLENARY)

15:30 **How resilient are African Health Systems to maintain and improve access to CVD care?** (Interactive forum)
Room: Arabuko 1 & 2

16:30 **What are the challenges and opportunities for capacity building in Africa?** (Interactive forum)
Room: Arabuko 1 & 2

17:30 – 19:30 OFFICIAL OPENING CEREMONY AND SOCIAL EVENT

23RD NOVEMBER – DAY 1 CONGRESS

08:00 – 10:00

African Heart Rhythm Session

Room: Arabuko

Chairman: Mervat Aboulmaaty, Mohamed Salim

Panelists: Daniel Nduiga, Hassan Adan, Mervat Aboulmaaty, Sherif Habiba, Joselyne Rwebemba, Kamilu Karaye

Rapporteur: Hassan Adan

SESSION A

Pacing

- Device selection and indications. How different is Africa from the rest of the world? (20 min) – **Mohamed Salim**
- Techniques to offer synchronized pacing in AV block. His pacing/CRT and managed ventricular pacing options. – **Brian Vezi**
- Q&A

SESSION B

Focus on EP

- Case-based discussion on management of VT storm – **Mervat Aboulmaaty**
- Techniques and manoeuvres to diagnose SVT – **Muzahir Tayebjee (UK)**
- Q&A

Echocardiography in Practice

Room: Mwongea

Chairman: Saad Subahi, Anders Barasa

Panelists: Fred Bukachi, Ntobeko Ntusi, Hatim Kheiralla, Alan Fraser, Redi Pecini, Ann Waweru, Ghada Kazamel

Rapporteur: Barbara Karau

(Each talk – 15 min)

Theme – Focus on echo technique refinement

Topics:

- Access to cardiac imaging in Africa – current status and how to expand the service – Ntobeko Ntusi
- Echocardiography topics:
 - Cardiac function:
 - Quantification of the left ventricle dimensions and function – Hatim Kheiralla (Left ventricle systolic function beyond EF)
 - Diastolic function assessment – **Alan Fraser**
 - Valvular regurgitation:
 - Aortic regurgitation: mechanisms and assessment of severity – **Redi Pecini (Denmark)**
 - Mitral regurgitation: primary and secondary – **Redi Pecini (Denmark)**
 - Assessment of right heart hemodynamics and tricuspid regurgitation – **Blanche Cupido (SA)**

10:00 – 10:30

REFRESHMENTS AND HEALTH BREAK

10:30 – 12:30

Hypertension in Focus - 40min

Chairman: Anastase Dzudie, Bernard Samia

Panelists: Albertino Damasceno, Elijah Ogola, Fred Bukachi, Fausto Pinto, Emma Karari

Title: Burden and challenges in the management of hypertension in Africa (Each segment – 10 min)

- Session introduction **Anastase Dzudie**
- Reducing the Burden of Hypertension in Africa: Primary Care Approach **Dike Ojji**
- Pharmacotherapy of Hypertension in Africa: Peculiarities and relevance of specific guidelines **Albertino Damasceno**
- Discussion – **Elijah Ogola** and **Augustine Odili**

Covid – 19 And the Heart (40 min)

Chairman: Fausto Pinto, Bernard Samia

Panelists: Karen Sliwa, Emma Karari, Amam Mbakwem, Aimé Bonny, Elijah Ogola, Martin Wanyoike, James Kayima

- WHF COVID and CVD Study – LMIC – **Karen Sliwa** – 15 min
- Thrombosis management in COVID era in line with ESC updates – **Emma Karari** – 15 min
- Discussion **10 mins**

Access to Arrhythmia Care in Africa (40 min)

Chairman: Mohamed Salim, Bernard Samia

Panelists: Aimé Bonny, Daniel Nduiga, Anastase Dzudie, Abdallah Mahdhaoui, Sherif Habiba, Constantine Akwanalo

- Challenges of EP and pacing in Africa – **Reuben Mutagaywa** (20 min)
- Anti-coagulation systems of care in Africa – **Amam Mbakwem** (10 min)
- Discussion – **Bernard Samia, Mohamed Salim** (10 min)

12:30 – 13:30 **Industry Plenary – Lignum Vitae Health Industry Symposium on Dyslipidemia**13:30 – 14:00 **LUNCH, EXHIBITION BOOTH, NETWORKING**

14:00 – 15:30

Rheumatic Heart Disease – Multi-Segmental Approach (30min)

Chairman: Liesl Zuhlke and Bernard Gitura

Panelists: Ana Mocumbi, Sulafa Ali, Boniface Osano, Mzee Ngunga, Loice Mutai, Sean Del Rossi, Gerald Yonga, Emmy Okello

- Case for Investment in RHD in the African Union - Implications for PASCAR – **Ana Mocumbi** (10 min)
- Secondary antibiotic prophylaxis for latent RHD (The GOAL trial) – **Emmy Okello** (10 min)
- Discussion – **Bernard Gitura** (10 min)

IMAGING – Echo-based decision making (30min)

- Case 1: An interesting and instructive echo – **Christine Jowi** (10 min)
- Case 2: An interesting and instructive echo – **Justiaan Swannevelder** (10 min)
- Case 3: An interesting and instructive echo – **Ahmed Suliman** (10 min)

Interventional Cardiology (30min)

- Balloon Valvuloplasty. An overview of contemporary outcomes – Mpiko Ntsekhe (10 min)
- Balloon Valvuloplasty. Inoue or Multi-track? – Mzee Ngunga (10 min)
- Discussion (10 min)

15:30 – 16:00 **REFRESHMENTS AND HEALTH BREAK**

10:30 – 12:30

Hypertension in Focus – 40min**Room:** Arabuko 1 & 2**Chairman:** Anastase Dzudie, Bernard Samia**Panelists:** Albertino Damasceno, Elijah Ogola, Fred Bukachi, Fausto Pinto, Emma Karari, Martin Wanyoike**Rapporteur:** Peter Mugo**Burden and challenges in the management of hypertension in Africa (Each segment – 10 min)**

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- Discussion (10 min)

15:30 – 16:00

REFRESHMENTS AND HEALTH BREAK

16:00 – 17:30

Sports Cardiology**Room:** Dodori**Chair:** Ibrahim Toure, Wilson Sugut, Ahmed Suliman**Panelists:** Carol Okoth, Wilson Sugut, Mahdhaoui Abdallah**Rapporteur:** Wilson Sugut

Quick-fire session (10 mins each)

- ECG in African athletes – **Ahmed Suliman (Sudan)**
- Athletes heart or cardiomyopathy? **Abdoul Kane (Senegal)**
- How to manage ventricular premature beats in Athletes – **Abdelhamid Moustaghfir**
- Sport in COVID-19 period – **Ibrahim Ali Toure (Niger)**
- Sports recovery after recovery of covid19 – **Mahdhaoui Abdallah**
- Sudden Cardiac Death and the athlete – **Hasham Varwani (Kenya)**
- Athletes heart the essentials of the year 2021 – **François Carré**

Discussion (20min)

Preventive Cardiology**Room:** Shimba**Chair:** Amam Mbakwem, Lilian Mbau**Panelists:** Erick Njenga, Abdoul Kane, Hussein Bagha, Yusuf Palki, Amam Mbakwem, Daniel Katambo, Hazel Kariuki**Rapporteur:** Yubrine Moraa

Quick-fire session (10 mins each)

- Risk assessment and its importance **Kemi Tibazarwa**
- What's new in risk assessment for dyslipidaemia – **Hasham Varwani**
- Discussion (10 mins)

State of the Art talks (20 mins each)

- Obesity prevention across the world – **Fausto Pinto**
- Optimizing blood pressure and blood lipid targets for patients: Practical steps – **Amam Mbakwem**
- Cardiac rehabilitation – **Tito Ngeno (10 mins)**
- Discussion

Rheumatic Heart Disease**Room:** Mwongea**Chair:** Liesl Zuhlke, Gerald Yonga**Panelists:** Felix Barasa, Ana Mocumbi, Craig Sable, Andrea Beaton, Joselyn Rwebembera**Rapporteur:** Grace Aketch

Quick-fire session (15 mins each)

- Advances in ECHO technology for RHD diagnosis – **Craig Sable**
- PEN Plus Partnership: Addressing Neglected Cardiovascular Diseases in Africa – **Ana Mocumbi**
- Maternal and Neonatal outcomes following screening for latent RHD in Africa – **Andrea Beaton**
- Capacity building for RHD control in Sudan – **Sulafa Ali**
- Latent RHD in West Africa: a pilot multi-country study – **Lamin Jaiteh**
- Increasing literacy towards RHD prevention and management in high-risk populations **Ana Mocumbi**

17:30 - 19:00

Abstracts quickfire slot**Chairman:** Emmy Okello, Roseanne Nyabera**ABSTRACTS****Room:** Dodori

- Julian Hoevelmann (777)
- Hend Ali (898)
- Nene Mboweni (957)
- Noran Khalil Ibrahim (938)
- Pilly Chilo (923)
- Bodian Malick (928)
- Peter Ogutu (940)
- Peter Ogutu (944)
- Carol Mutai (970)

Chairman/Judge:
Ahmed Suliman**ABSTRACTS****Room:** Mwongea

- Adam Ahmed (845)
- Kianu Phanzu Bernard (865)
- DHassan Adan Ahmed (969)
- Masika Anne (846)
- Pedro Pallangyo (875)
- Pedro Pallangyo (895)
- Julius Oluwatoyin Adsina (913)
- Prof Elijah Ogola (915)
- Lilian Mbau (935)

Chairman/Judge:
Anastase Dzudie**ABSTRACTS****Room:** Shimba

- Taariq Salie (824)
- Taariq Salie (826)
- Dr Nicoletta Erba (871)
- Sarr El Hadj Mbacké (884)
- BA Papa Salmane (829)
- Dr Valentina Tolio (867)
- Timothy Spracklen (833)
- Thomas Aldersley (916)
- Bodian Malick (928)
- Ba Papa Salmane (832)

Chairman/Judge:
Felix Barasa**ABSTRACTS****Room:** Arabuko 1

- Adefres Bahiru (835)
- Mark Abelson (855)
- Sylvia Kitur (917)
- Antonina Obayo (778)
- Zita Shayne (798)
- Jithan Jacob Koshy (785)
- Julian Hoevelmann (813)
- Salvatore Lentini (866)

Chairman/Judge:
Awad Mohamed**ABSTRACTS****Room:** Arabuko 2

- Nganou-Gnindjio Chris Ndege (803)
- Kamilu Karaye (860)
- Okechukwu Ogah (864)
- Kamilu Karaye (872)
- Christopher Osarumen Osagie (911)
- Okechukwu Ogah (912)
- Isaac Ssinabulya (921)
- Olanike Allison (919)

Chairman/Judge:
Mahmoud Sani

24th NOVEMBER – DAY 2 CONGRESS

08:00 - 10:00

Collaborative Heart Failure Management**Room:** Arabuko 1 & 2**Chairman:** Mahmoud Sani, Swaleh Misfar**Panelists:** Samuel Gitau, Kevin Ombati, Mohsen Gaballa, Yagoub Musa, Daniel Gikonyo, Mahmoud Sani, Anders Barasa**Rapporteur:** Redempta Kimeu

- The clinical case vignette – **Anders Barasa (5 min)**
- How to image this patient – Echo and Cardiac MR – **Kevin Ombati (20 min)**
- What additional value does PET CT offer? – **Samuel Gitau (10 min)**
- An overview of evidence for revascularization in Heart Failure (20min) – **Mohamed Jeilan (20 min)**
- CTO intervention, state of the art – **Pieter van Wyk (20 min)**
- Are devices in ischemic cardiomyopathy in this era of new drugs becoming redundant (15min) – **Yagoub Musa**
- Discussion **(30 min)**

Congenital Cardiology and Cardiac Surgery**Room:** Dodori**Chairman:** Naomi Gachara, Sulafa Ali**Panelists:** Grace Aketch, Liesl Zuhlke, Sulafa Ali, Peter Odhiambo, Sean del Rossi, Irene Mbwavi**Rapporteur:** Irene Mbwavi

- Global prevalence of CHD: Birth prevalence, children of school-going age and adults with congenital heart disease: Gaps in diagnosis, care and implications – **Liesl Zuhlke (SA)**
- Exome Sequencing and Congenital Heart Disease in Sub-Saharan Africa: Lessons from Nigeria – **Ekanem Ekure**
- Imaging of Double-Outlet Right Ventricle- how to prognosticate and best inform your surgeon. – **Craig Sable**
- Establishing a cardiac catheterization laboratory – lessons from Zambia – **John Musuku**
- Paediatric Cardiac Surgery in Morocco- trends, challenges, and outcomes – **Drissi Boumzebra, Morocco**
- Adults with Congenital Heart Disease: A surgical perspective – **Frank Edwin, Ghana**

10:00 – 10:30

REFRESHMENTS AND HEALTH BREAK

10:30 - 12:30

General Controversies in Cardiology (In collaboration with the ESC and the EHJ)**Room:** Arabuko 1 & 2**Chairman:** Karen Sliwa, Harun Otieno**Panelists:** Kevin Ombati, Mohsen Gaballa, Yagoub Musa, Stephen Omondi, Rosslyn Ngugi, Mpiko Ntsekhe**Rapporteur:** Redempta Kimeu

- STEMI Care – Thrombolysis as 1st line reperfusion in the post-COVID era
Pro – **Ahmed Suliman (7 min)**
Against – **Awad Mohamed (7 min)**
Expert Discussant – **Bernard Gersh (ESC) (15 mins)**
- Low carb diets should be emphasized for all CVD risk group
Pro – **Daniel Katambo (7 min)**
Against – **Mohamed Jeilan (7 min)**
Expert Discussant – **Fausto Pinto (ESC) (15 mins)**
- CT coronary angiography should be used for all coronary imaging
Pro – **Kevin Ombati (7 min)**
Against – **Mohsen Gaballa (7 min)**
Expert Discussant – **Awad Mohamed (15 mins)**
- ARNI and SGLT-2 inhibitors for all patients with reduced ejection fraction in SSA
Pro – **Yagoub Musa (7 min)**
Against – **Anders Barasa (7 min)**
Expert Discussant – **Vinesh Vaghela (15 mins)**

Adult Cardiac Surgery**Room:** Dodori**Chairman:** Andrew Duncan, Prem Ponoth**Panelists:** Prem Ponoth, Peter Ogutu, Russ White, Agneta Odero, Oburu, Jimmy Munene, Peter Odhiambo**Rapporteur:** Peter Ogutu

- Quality, databases and outcomes. Do we know what we are achieving? – **Andrew Duncan (15 min)**
- Aortic-neo-cusp reconstruction (Ozaki Procedure). **15min Tomasa Centella Hernandez**
- An interesting case of mine – ECMO. **Russ White (10 min)**
- Post-cardiotomy heart failure: options for mechanical circulatory support. **20 mins. Charles Yankah**
- Thrombolysis to address occluded mechanical valves. **(10 min) Dimiana Raafat**
- An interesting case of mine – **Prem Ponoth (10 min)**
- Repair of mixed rheumatic mitral valve disease. **20 mins. Charles Yankah**
- **Q&A 20mins**

12:30 – 13:00 **Boehringer Ingelheim Industry Plenary: Over a Decade of Anticoagulation With DOACS, the Real World Evidence And Best Clinical Practice by Hasham Varwani**
Room: Arabuko 1 & 2

13:00 – 15:00 **KCS AGM**
Room: Arabuko 1 & 2

13:00 – 14:00 **LUNCH, EXHIBITION BOOTH, NETWORKING**

14:00 – 15:00 **Abstracts – The top 5! Finals**
Judges: Ahmed Suliman and Amam Mbakwem
Room: Shimba

15:00 – 15:50

The Bongani Mayosi Memorial Session

Room: Arabuko 1 & 2

Chairs: Mpiko Ntsekhe, Emma Karari

Rapporteur:

The legacy of Bongani Mayosi: RHDGen and beyond – **Mark Engel (SA) – (15 mins)**

“The PASCAR bench” with Saad Subahi and Karen Sliwa on the hot seat – **(35 mins)**

Interviewers – Mpiko Ntsekhe and Emma Karari

15:50 – 16:00

Top Abstracts Presentation and Awards

Room: Arabuko 1 & 2

Emmy Okello to introduce

Officiated by **Bernard Gitura, Saad Subahi**

16:00 – 17:00

State of the Art session (in collaboration with the ACC)

Room: Arabuko 1 & 2

Rapporteur: Peter Mugo

Fostering international collaboration to enhance cardiovascular care in Africa: From research to practice and policy – **Elijah Ogola Ragavendra Baliga**

17:00 - 19:00

PASCAR AGM

Capacity building for nurses and allied professionals (in collaboration with ACC)

Chairman: Ngendo Kuria, Roseanne Nyabera

Rapporteur: Roseanne Nyabera

- Career pathways for nurses and allied health professionals in cardiology – **Kena Patel (20 min)**
- Cardiovascular research and mentorship opportunities for nurse and allied professionals – **Marci FarquharSnow (20 min)**
- Cardiac nursing in Kenya – **Roseanne Nyabera (20min)**
- Development of a cardiac nursing training program in Kenya (**Elizabeth Ngendo /Marci FarquharSnow) (20 min)**
- Collaborative opportunities for cardiac nursing and allied professionals training programs in Africa – **Karen Friedl (20min)**
- Panel discussion (20min)

19:30 – 21:00 **GALA DINNER**

25th NOVEMBER – DAY 3 CONGRESS

08:00 – 10:00

Acute Coronary Syndromes**Room:** Arabuko**Chairman:** Harun Otieno, Hassan Adan**Panelists:** Redempta Kimeu, James Kayima, Kamilu Karaye, Ahmed Suliman**Rapporteur:** Redempta Kimeu

PASC – Four years down the line (10 min) Awad Mohamed

Presentations

- Acute Coronary Syndromes in the Covid19 era (20min) – Mpiko Ntsekhe
- The COLCOTT trial. Habib Gamra (20 min)

Addressing the scourge of late presentation MI (Interactive Session) (60mins)**Chairman:** Harun Otieno**Panelists:** El-Guindy, Hassan Aden, James Kayima, Kamilu Karaye**Comorbidities in CVD****Room:** Mwongea**Chairman:** Hussein Bagha, Mohamed Sood**Panelists:** Mahmoud Sani, Vinesh Vaghela, Ann Wairagu, Andrew Odhiambo**Rapporteur:** Barbara Karau**Presentations**

- Cancer and the heart. 20 min **Tochkwu Okwuosa**
- Tuberculosis and Cardiovascular disease. Two colliding pandemics. 30 min. **Friedrich Thienemann**
- Pregnancy and heart failure: Risk stratification and management of women presenting with peripartum HF **Karen Sliwa**
- Atrial fibrillation and heart failure. 15 min **Vinesh Vaghela**
- Diabetes, Heart Failure and the interaction between the two. 15 min **Blanche Cupido**

10:00 – 10:30

REFRESHMENTS AND HEALTH BREAK

10:30 - 12:30

Heart Failure**Room:** Arabuko 1 & 2**Chairman:** Mahmoud Sani**Panelists:** Mahmoud Sani, Anders Barasa, Felix Barasa, Amha Weldehana, Yacoub Musa**Rapporteur:** Peter Mugo

- Presentation: Heart failure with preserved ejection fraction. – Mohamed Salim (20 min)
- Presentation: Evolving paradigms in HF management - Zaheer Youssef (20 min)
- Discussion 20min

Hypertension**Chairman:** Elijah Ogola

- Emerging evidence in the management of Hypertension – **Neil Poulter**
- Why single-pill combination therapy is included in all hypertension guidelines? – **Alta Shutte**
- Discussions

12:30 – 13:30 **Boehringer Ingelheim Industry Plenary: “Hypertension Management, From the Guidelines to Clinical Practice with Telmisartan” by Elijah Ogola**

13:00 – 14:00 **LUNCH, EXHIBITION BOOTH, NETWORKING**

14:00 - 16:00

Grandstand Live Case

Room: Arabuko 1 & 2

Chairman: Awad Mohamed, Swaleh Misfar

Rapporteur: Peter Mugo

- Stemi Guidelines in resource-limited setting – Alexander Thomas
- Stent-save-a life – Awad Mohamed. (10 min)

Percutaneous Coronary Intervention using adjunctive technology

Operators: Kieran Mwazo and Harun Otieno

From the auditorium: Awad Mohamed and Swaleh Misfar

Discussants: Anas Babiker, Anthony Gikonyo, David Kanyeki, Amha Weldehana

- Technology in use – **Swaleh Misfar**
- Technical aspects – **Erik van Houwensis**
- Increasing complexity of coronary disease in Africa – **Anthony Gikonyo**

16:00 - 17:00

AFHRA ECG Quiz

Rapporteur: Barbara Karau

Six teams of six work to win the ECG quiz

CLOSING CEREMONY

Page	Entry Id	Name	Surname	English Title
16	784	Jithan Jacob	Koshy	The role of Off-pump coronary surgery in an African setting and its potential cost benefits: A South African Perspective.,
16	798	Zita Shayne	Kerbelker	Prevalence, Aetiology, Predictors and Outcomes of Non-tuberculous Pericardial Effusions in high-HIV, high-TB prevalence settings: an IMPI sub-study
16	824	M. Taariq	Salie	Utility of Human Immune Responses to GAS Antigens as a Diagnostic Indicator for ARF,
17	777	Julian	Hoevelmann	Effectiveness of implanted cardiac rhythm recorders with electrocardiographic monitoring for detecting arrhythmias in peripartum cardiomyopathy (PPCM),
17	778	ANTONINA	OBAYO	BLEEDING COMPLICATIONS IN PATIENTS ON NEW ORAL ANTICOAGULANTS FOR VENOUS THROMBOEMBOLISM IN KENYA,
17	796	Premanand	Ponoth	Doctor
18	803	Nganou-Gnindjio	Chris	Utility of lung ultrasound in assessment of left ventricular filling pressures in Cameroon: A cross-sectional echocardiographic and echopulmonary study
18	829	BA	PAPA SALMANE	Results of Repair of the Rheumatic Valve in Children in Senegal,
18	855	MARK	ABELSON	An unmet need: Stroke intervention in Africa
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Submission ID: 798

PREVALENCE, AETIOLOGY, PREDICTORS AND OUTCOMES OF NON-TUBERCULOUS PERICARDIAL EFFUSIONS IN HIGH-HIV, HIGH-TB PREVALENCE SETTINGS: AN IMPI SUB-STUDY

Authors:

Mpiko Ntsekhe, Shaheen Pandie, Jonathan Grant Peter, Peter Raubenheimer

University of Cape Town, South Africa

English Abstract:

Background: There is limited data regarding non-tuberculous pericardial effusions (non-TBPE) in high-HIV, high-TB prevalence settings. We implemented a comprehensive diagnostic strategy including clinical and pericardial fluid (PF) diagnostics to evaluate the prevalence, aetiology, predictors and outcomes of non-TBPE patients.

Methods: Consecutive, consenting patients with moderate-to-large pericardial effusions were enrolled in the Investigation of Management of Pericarditis in Africa (IMPI) diagnostic sub-study (2009-2014), and underwent pericardiocentesis. PF diagnostic testing included adenosine deaminase (ADA), lactate dehydrogenase (LDH), cell counts, cytology, TB microscopy and liquid culture, unstimulated interferon gamma (uIFN γ), and Xpert MTB/RIF.

Results: 151/172 screened participants were included. 19.2%(29/151) were classified as non-TBPE, 49.0%(74/151) as definite-TBPE, and 33.1%(50/151) as probable-TBPE. 74%(105/142) were HIV-infected [median(IQR) CD4 count 139(81-249)]. Non-TBPE participants were significantly older [mean(IQR) age 52(34-60) vs 33(27-38) $p<0.001$], less likely to be HIV-infected [28% vs 80-82% $p<0.001$], and had greater cardiac functional disability [86% NYHA III and IV vs 25-41% $p<0.001$]. On diagnostic evaluation, non-TBPE participants had smaller pericardial effusions [$p<0.001$], lower PF ADA levels [$p<0.001$], lower PF LDH levels [$p=0.02$], less lymphocytic-predominant effusions [$p<0.001$], higher serum haemoglobin levels [$p=0.004$], and higher serum white cell counts [$p<0.001$]. The predominant aetiology of the non-TBPE was malignancy (13/29,44.8%), followed by bacterial pericarditis (6/29,20.7%), heart failure (3/29,10.3%), idiopathic pericarditis (3/29,10.3%), systemic lupus (2/29,6.9%), renal failure (1/29,3.4%), and miscellaneous (1/29, 3.4%). The clinical findings that best predicted non-TBPE aetiology were age >50 years, HIV negativity, and absence of night sweats. Mortality at 1 year for non-TBPE was 24% (7/29) vs 7% (5/74) for definite TBPE.

Conclusion: In high-HIV, high-TB prevalence settings, non-TBPE is predominantly caused by malignancy and has a poor 1-year prognosis. A clinical prediction tool utilising the variables age greater than 50 years, HIV-uninfected status, and the absence of night sweats, offers excellent pre-investigatory differentiation between non-TBPE and definite-TBPE.

Submission ID: 784

THE ROLE OF OFF-PUMP CORONARY SURGERY IN AN AFRICAN SETTING AND ITS' POTENTIAL COST BENEFITS: A SOUTH AFRICAN PERSPECTIVE.

Authors:

Jithan Jacob Koshy, Murali Vettath

Nelson Mandela University, South Africa

English Abstract:

Background: On-pump coronary surgery remains among the most cost intensive procedures in the surgical disciplines with high costs resulting from the various aspects of the operative management of the patient. Various studies have shown the cost benefits of off-pump

coronary surgery. We sought to describe the potential cost benefits in a South African setting by evaluating surgical consumables as a cost driver of coronary artery surgery and extrapolating costs to a broader population level.

Objectives: To compare the cost of on-pump versus off pump coronary surgery by evaluating surgical consumables as a cost driver and extrapolating the cost comparison at a national level.

Methods: We retrospectively compared the cost of coronary artery surgery in 30 patients, 15 on pump CABG patients and 15 off pump CABG patients conducted at a public facility in the Eastern Cape in 2018. The on-pump operations were conducted with standard consumables for on pump surgery. Eight of the off-pump patients utilised a reusable metallic stabiliser with disposable pods and seven utilized the disposable octopus stabilizer.

Results: The estimated average recurring cost for consumables in on-pump coronary surgery was approximately ZAR 42,224 and the average recurring cost for off-pump consumables with the disposable octopus stabilizer was ZAR35,350 and the reusable metallic stabilizer was ZAR20,127. The cost difference among the three groups with respect to consumables was ZAR22,097. OPCAB may be indicated in approximately 10% of patients needing coronary surgery. Approximately 3248 patients undergo coronary surgery annually in South Africa. OPCAB surgeries are not commonly performed in South Africa. If 10% of the indicated patients underwent OPCAB surgery a cost saving of ZAR 7.1 million would be made. If South Africa performed a similar number of OPCAB procedures as Japan at 65% then the health system would save ZAR 46.6 million annually on just consumables.

Conclusion: The currently used OPCAB stabilizers on the market are mainly disposable and the cost benefit of utilizing these is not achieved as the cost of these disposable stabilizers offsets the savings achieved by the re-usable stabilizer by approximately 75%. Reusable stabilizers may not be an economically viable product for medical device manufacturers since recurring sales are not generated and hence savings on consumables may not be a significant driver for the adoption of OPCAB surgery in South Africa.

Submission ID: 824

UTILITY OF HUMAN IMMUNE RESPONSES TO GAS ANTIGENS AS A DIAGNOSTIC INDICATOR FOR ARF

Authors:

M. Taariq Salie, Kimona Rampersadh, Babu Muhamed, Kélin C. Engel, Liesl J. Zühlke, James B. Dale, Mark E. Engel

University of Cape Town, South Africa

English Abstract:

Introduction: Previous studies have established that streptococcal antibody titre is correlated with a diagnosis of acute rheumatic fever (ARF). However, results vary in the usefulness of GAS antibodies, particularly anti-Streptolysin-O (ASO) and anti-DNase B, in confirming a recent GAS infection. Therefore, we sought to provide, from published studies, an evidence-based synthesis of the correlation of streptococcal serology to establish the usefulness of immunological data in aiding the diagnosis of ARF. These findings are anticipated to have implications where echocardiography is not freely available, especially where ARF is rampant.

Methods: We conducted a comprehensive search across a number of databases. Applying a priori criteria, we selected articles reporting on studies, regardless of study design, that evaluate the levels of antibodies against GAS-specific antigens in ARF subjects against control values or a published standard. Data were extracted onto data extraction forms, captured electronically and analysed using Stata software. Risk of bias was assessed in included studies using the Newcastle-Ottawa Scale (NOS).

Results: The search strategy yielded 534 studies, from which 24 met the inclusion criteria, reporting on evaluation of titres for SLO (n=10),

DNase B (n=9), anti-streptokinase (ASK) (n=3) amongst others. Elevation in titres was determined by comparison with controls and upper limit of normal (ULN) antibody values as determined in healthy individuals. Meta-analysis of case-controlled studies revealed moderate odds ratio (OR) correlations between ARF diagnosis and elevated titres for SLO (OR=10.57; 95% CI, 3.36 to 33.29; 10 studies) and DNase B (OR=6.97; 95% CI, 2.99 to 16.27; 7 studies).

Conclusion: While providing support for incorporating SLO and DNase B in the diagnosis of ARF, we present the following reflections: an elevation in SLO and DNase B levels are not consistently associated with an ARF diagnosis; increasing the number of GAS proteins in the test is warranted to improve sensitivity; paired (acute and convalescent) samples could provide a more accurate indication of a rising titre. Use of community-based controls as a standard is not a reliable marker by which to gauge recent GAS infection.

Submission ID: 796

DOCTOR

Author:

Premanand Ponoth
The Karen Hospital, Kenya

English Abstract:

Introduction: Even though early reports suggests an African immunity to acute myocardial infarction (MI), there is an increase cases of acute coronary syndrome in all communities. WHO reports of 2014 indicates coronary artery disease (CAD) in Kenya constitutes 2.74% of all death. Kenya ranks no.149 in the world. Age adjusted the threat is 53.61/per 100,000 of the population.

There is increasing trend in CAD contrary to the myth. In Kenya, it is estimated that 25% of hospital admissions are due to CVD and 13% of autopsies revealed CVDs as cause of death, representing the second highest cause of death after infectious/maternal/perinatal causes. We are presenting the Midterm results of patient's who has undergone Coronary Artery Bypass Grafting (CABG) at The Karen Hospital, Nairobi for the past 51 months.

Material & Methods: From May 2017 to July 2021 (51 months) our centre has done 76 CABG (Coronary Artery Bypass Graft) successfully. Male: Female ratio being 3:1. Age varied from 92 years to 45 years. Off pump CABG (OPCABG) was done in 68 cases (89.5%), and on pump CABG was done in the remaining 8 cases (10.5%). Three of the on pump cases were combined procedures (AVR with CABG -2 and VSD with CABG-1) (3.9%) and the rest 5 cases (6.6%) were done on pump with heart beating using octopus stabilizer. These case were unstable hemodynamically for OPCABG.

Ejection Fraction (EF) ranged between 35%-65%, all the surgeries done on beating heart. 64 patients were extubated in ICU in 4 to 8hrs time (84.2%). 12 patient were ventilated overnight(15.8%). 54patients had double vessel grafting (71.1%), and the rest 20 had three vessel grafting (26.3%). Left Internal Thoracic artery and long saphenous vein were used for as conduit for grafting.

Results: There were 3 mortalities in the post OP (3.9%). One patient had severe gastric bleed at day 5, the other two died of renal failure in spite of dialysis in post-operative period. These two patients had high BUN, operatively. Superficial skin infection was found in four (5.3%) which was treated with dressings and antibiotics. There was one superficial sternal wound infection with sternal instability, which needed debridement and rewiring. There were 8 cases (10.5%) with CKD on dialysis. All the patients were done on OPCABG, and all of them did well. Three patients with high BUN had to have 2-3 sittings of dialysis in the post-operative period.

Submission ID: 778

BLEEDING COMPLICATIONS IN PATIENTS ON NEW ORAL ANTICOAGULANTS FOR VENOUS THROMBOEMBOLISM IN KENYA

Author:

Antonina Obayo, Anders Barasa, Mzee Ngunga, Jasmit Shah, Ahmed Sokwala
Aga Khan University Hospital, Kenya

English Abstract:

Background: The incidence of bleeding complications in patients with venous thromboembolism (VTE) on new oral anticoagulants (NOACs) has not been widely studied in contemporary clinical practice in Africa. The purpose of this study is to determine the rates of major bleeding, clinically relevant non-major bleeding (CRNM), and minor bleeding associated with NOAC use

Methods: A retrospective review of patients diagnosed with venous thromboembolism and treated with NOACs at Aga Khan University Hospital (AKUHN) from January 2014 to December 2019 was carried out. Clinical and outcome data were collected from medical records and the hospital mortality database. All patients with VTE aged > 18 years and initiated on NOACs were recruited. Patients with missing information were excluded. They were followed up from the time of commencement of oral anticoagulation to completion of therapy, or to the time of the first major bleed, clinically relevant non-major bleed (CRNM), or minor bleeding. Data on bleeding was obtained from the hospital database and through telephone interviews. Unadjusted rates of the first major bleeding event or clinically relevant non-major bleeding (CRNM) were calculated as the number of bleeding events per 100 person-years

Results: Two hundred forty-three patients with venous thromboembolism were recruited. Two hundred and twenty-two (91.4%) were initiated on rivaroxaban, 12 (4.9%) on dabigatran, 9 (3.7%) on apixaban with a median follow-up of 213 (IQR: 119, 477) days. The median age of the patients was 57(IQR: 45, 71) years. A total of 64 bleeding events were identified in 50 (20.6%) patients. Overall, the incidence rate for bleeding events was 17.24 per 100 patient-years. The incidence rate of major bleeding was 3.79 per 100 person-years. Gastrointestinal bleeding was the most common major bleeding site. There were more females with bleeding events (70.7%) compared to males. Anaemia and use of aspirin and other antiplatelets were associated with a higher incidence of major and CRNM bleeding (RR=3.77, C.I 1.37; 10.39, P=0.005 and RR=8.89, C.I 2.06; 38.33, P=0.0003 respectively)

Conclusions: Most of these bleedings were minor with the GIT being the most common source of major bleeding and menorrhagia being the commonest cause of bleeding. Anaemia and the use of aspirin were associated with a higher incidence of major bleeding.

Submission ID: 777

EFFECTIVENESS OF IMPLANTED CARDIAC RHYTHM RECORDERS WITH ELECTROCARDIOGRAPHIC MONITORING FOR DETECTING ARRHYTHMIAS IN PERIPARTUM CARDIOMYOPATHY (PPCM)

Author:

Julian Hoevelmann, Charle Viljoen, Ashley Chin, Olivia Briton, Karen Sliwa

Faculty of Health Sciences, University of Cape Town, South Africa and Klinik für Innere Medizin III, Kardiologie, Angiologie und Internistische Intensivmedizin, Universitätsklinikum des Saarlandes, Saarland University Hospital, Homburg (Saar), Deutschland

English Abstract:

Introduction: Peripartum cardiomyopathy (PPCM) is a form of dilated

cardiomyopathy that occurs within the last months of pregnancy or up to 5 months postpartum. Previous studies have shown that up to 30% of deaths in PPCM are related to sudden cardiac death (SCD). However, little is known about the burden of arrhythmias in PPCM and their contribution to SCD.

Purpose: We aimed to compare implantable loop recorder (ILR) plus 24-hour Holter monitoring to 24h Holter monitoring alone to assess its utility in the detection of arrhythmias in PPCM.

Methods: In this single-centre, prospective clinical trial, 20 consecutive patients with PPCM were randomized to either standard care (SC cohort: ECG & 24-hour Holter) or SC plus ILR (SC-ILR cohort: ECG, 24-hour Holter, ILR). Follow-up included the first six months after ILR implantation.

Results: The median age of this cohort was 31.7 years with a parity of 2 (IQR 1-4). They presented with a median left ventricular ejection fraction (LVEF) of 28% (IQR 24-35) and LVEDD of 60mm (IQR 55-66). The 12-lead ECG recorded sinus tachycardia in half of the patients, with median heart rate of 90bpm (IQR 79-106) compared to 94.5bpm (IQR 85-99) on 24h-Holter-monitoring. The median QTc-interval was 464ms (IQR 424-494). Ambulatory ECG monitoring detected major arrhythmias in three women (one in SC cohort, two in SC-ILR cohort). One patient (5%) died shortly after ILR implantation. Her ILR detected sinus arrest with an escape rhythm that failed and resulted in an out of hospital cardiac arrest. Non-sustained ventricular tachycardia (nsVT) occurred in two women (10%), one of which was detected by Holter monitoring and the other on ILR. Both women presented with acute heart failure with severely impaired systolic function (LVEF 12% and 21% respectively). One of these patients had persistent LV systolic dysfunction despite optimal medical therapy and received an implantable cardioverter-defibrillator (ICD). The other patient had intractable heart failure requiring recurrent intensive-care treatment and underwent heart transplantation. There was no atrial fibrillation or atrioventricular block detected in any patient by ECG, Holter or ILR monitoring throughout the study period.

Conclusion: This study on ambulatory ECG monitoring in PPCM showed a high prevalence of potentially fatal arrhythmias, which occurred predominantly in the acute phase of the disease. Both Holter and ILR had a direct influence on clinical decision making.

Submission ID: 803

UTILITY OF LUNG ULTRASOUND IN ASSESSMENT OF LEFT VENTRICULAR FILLING PRESSURES IN CAMEROON: A CROSS-SECTIONAL ECHOCARDIOGRAPHIC AND ECHOPULMONARY STUDY

Authors:

Chris Nadège Nganou-Gnindjio, Ngouo Tchiffo Anderson, Ahinaga Andre Jules, Menanga Alain Patrick

Faculty of Medicine and Biomedical Sciences, University of Yaoundé, Cameroon

English Abstract:

Background: Pulmonary Ultrasound represents a relatively new, non-invasive tool for assessing pulmonary congestion. Identification of B-lines has been established for the diagnosis of Heart Failure (HF); however, its correlation with intracardiac pressures is not determined.

Objective: To evaluate the relationship between the number of B lines on lung ultrasound and the Left Ventricular Filling Pressures (LVFP) as determined by transthoracic cardiac ultrasound.

Materials and Methods: This was a cross-sectional analytical study that took place between November 2019 and June 2020 in the Cardiology department of Yaoundé Central hospital, in Cameroon. We included patients diagnosed with Heart Failure and a functional class less than NYHA III. We excluded participants with pulmonary conditions interfering with B lines. B profile was considered as the presence of at least 8 B lines in the pulmonary fields.

Results: 87 participants were enrolled. 55% were men, the mean

age was 62 years. The use of lung ultrasound was found in our study as a reliable test for the diagnosis of raised LVFP with a sensitivity of 84% and specificity of 99.4%.

Conclusion: Lung ultrasound is a simple tool that has a real interest in the rapid and reliable assessment of left ventricular filling pressures through the identification of a B profile

Keywords: Heart failure, Echocardiography, Lung ultrasound, Cameroon.

Submission ID: 855

AN UNMET NEED: STROKE INTERVENTION IN AFRICA

Author:

MARK ABELSON

VERGELEGEN MEDI CLINIC AND UNIVERSITY OF CAPE TOWN

English Abstract:

Acute ischaemic stroke (AIS) due to large artery occlusion (LAO) is a major cause of death and disability. This is best treated with percutaneous mechanical embolectomy (ME) as thrombolysis is mostly ineffective in these patients. Numerous randomised controlled trials (RCT) have consistently shown the number needed to treat (NNT) to significantly improve outcome is only 2.5! However ME is available in very few hospitals in Africa as there is no neuro-interventionalist available. Experienced interventional cardiologists are able to perform this relatively straight forward procedure without prolonged training as part of a well organised stroke team. After performing ME in AIS due to LAO for more than 10 years, I will discuss how to set up a stroke team and perform this procedure in areas of need where there are no neuro-interventionalists available.

Submission ID: 829

RESULTS OF REPAIR OF THE RHUMATISMAL VALVE IN CHILDREN IN SENEGAL

Authors:

PAPA SALMANE BA, Momar Sokhna Diop, Papa Amath Diagne, AMADOU GABRIEL CISS

Thoracic and Cardiovascular Surgery Center, Cheikh Anta Diop University, Dakar, Sénégal

English Abstract:

In Africa, acute rheumatic fever is endemic. Cardiac involvement is one of the most common complications in the form of valvular heart disease representing all damages to the heart valves. It is in this perspective that we realized this study whose general objective was to evaluate the results of mitral repair surgery in children in Senegal and the specific objective was to state the indications for mitral repair surgery and assess the results in terms of morbidity and mortality. This is a retrospective and analytical monocentric study, in the thoracic and cardiovascular surgery department of FANN National University Hospital Center in Dakar. It took place over a period of 30 months. All the patients who underwent mitral surgery, aged less than 18 years were included.

The total number of patients was 63, including 39 girls and 24 boys, a sex ratio of 0.62. The average age at the time of the surgery was 12 years old [5 - 17]. The functional symptomatology was dominated by the dyspnea found in all the patients. Cardiac ultrasound was diagnosed with mitral regurgitation in all patients. For all surgical procedures, the approach was a vertical midline sternotomy. The mitral valve was approached by left atriotomy in 40 patients (63.5%) and by the transeptal way in 23 patients. All patients had undergone

mitral valve repair associated or not with either aortic valve repair in 9 patients (14.2%), aortic valve replacement in 3 patients (4.8%), or one tricuspid valve repair in 31 patients (49%). The average duration of intubation was 6 hours. The average length of stay in intensive care was 2 days. Postoperative complications have been observed. Surgery was performed in 10 patients with 3 mitral valve replacements, 2 aortic valve replacements, a double mitral, and an aortic valve replacement associated with a tricuspid repair and in 4 cases a perfection of their mitral repair. Early and late surgical mortality was zero. The average follow-up time for our patients was 9 months [1 - 26]. During their follow-up, the evolution was favorable in 89% of patients who no longer had any functional symptoms.

Submission ID: 813

PROGNOSTIC VALUE OF NT-PRO-BNP FOR MYOCARDIAL RECOVERY IN PERIPARTUM CARDIOMYOPATHY

Authors:

Julian Hoevelmann, Charle Viljoen, Elani Muller, Sarah Kraus, Jacqui Cirotta, Mpiko Ntsekhe, Ntobeko Ntusi, Karen Sliwa

Faculty of Health Sciences, University of Cape Town, South Africa and Klinik für Innere Medizin III, Kardiologie, Angiologie und Internistische Intensivmedizin, Universitätsklinikum des Saarlandes, Saarland University Hospital, Homburg (Saar), Deutschland

English Abstract:

Background: Peripartum cardiomyopathy (PPCM) is an important cause of pregnancy-associated heart failure and occurs in women towards the end of pregnancy or within the first five months postpartum. Although PPCM is mostly associated with left ventricular (LV) recovery, many affected women develop chronic heart failure with persistently reduced LV ejection fraction (LVEF). Despite recent advances in the treatment of PPCM, clinical predictors of myocardial recovery remain sparse.

Objectives: N-terminal pro-brain natriuretic peptide (NT-pro-BNP) is the only clinically established biomarker with diagnostic value in PPCM. However, its prognostic value for LV recovery in PPCM remains uncertain. We aimed to establish whether NT-pro-BNP could serve as a predictor of LV recovery in PPCM, and if so, which levels would help with such risk stratification.

Methods: Women with PPCM seen at the Cardiomyopathy Clinic at Groote Schuur Hospital between 2012 and 2018 were recruited. Clinical details and echocardiographic features were recorded, and NT-pro-BNP was measured. LV recovery was defined as an LVEF of $\geq 50\%$ at 12 months follow-up.

Results: This cohort of 42 women with PPCM had a mean age of 29.3 ± 5.8 years and median parity of 2 (IQR 1–4). Almost half (45.2%) presented with a NYHA functional class III/IV. The median heart rate was 94bpm (IQR 74–103). At diagnosis, mean LVEF was $31.1 \pm 8.4\%$ and LV end-diastolic dimension (EDD) of 59mm (IQR 53–64), which improved to LVEF 44.5 ± 14.5 ($p=0.001$) and LVEDD 53.6mm ($p=0.007$). Median NT-pro-BNP at presentation was 915.8pg/mL (IQR 613.6–2422.5). Patients without LV recovery had a significantly higher NT-pro-BNP at diagnosis (1694.1pg/mL vs. 613.1pg/mL, $p=0.02$). A NT-pro-BNP level of >900 pg/mL predicted a lower probability of LV recovery (OR 0.19 [95% CI 0.05–0.73], $p=0.018$) at 12 months follow-up.

Conclusion: We show, for the first time, that NT-pro-BNP has a prognostic value for LV recovery in PPCM. NT-pro-BNP may be useful in the risk stratification in PPCM and may be used to recommend more intensive follow-up of patients who have a NT-pro-BNP >900 pg/mL at diagnosis.

Submission ID: 864

CONTEMPORARY CLINICAL PROFILE OF CHRONIC HEART FAILURE IN NIGERIA: LESSONS GLEANED FROM THE NIGERIAN NATIONAL HEART FAILURE REGISTRY

Authors:

Okechukwu S Ogah, Hadiza Seidu, Kamilu M Karaye, Rasaan Adebayo, Amam C Mbakwem, Umar G Adamu, Saheed O Adebayo, Taiwo Sogade

Cardiology Unit, Department of Medicine, University of Ibadan/ University College Hospital Ibadan, Nigeria

English Abstract:

Introduction: There is limited data on chronic heart failure (HF) in Africa. Available data are mainly on acute HF. We tried to fill this gap by establishing the Nigerian chronic HF registry. The objective of the study was, therefore to describe the clinical profile and characteristics of chronic HF patients attending the out-patients' services of selected hospitals in Nigeria.

Methods: In eight participating centres from the six geopolitical zone of Nigeria, we recruited 1269 unselected real-world patients with chronic HF in a national registry. Heart failure was typically diagnosed according to the ESC guidelines, based on signs, symptoms and structural and/or functional cardiac abnormalities. Information on diagnostics, treatment and co-morbidities were recorded.

Results: In our cohort, the mean age was 50.6 years (SD 18) [male 55.9(15.8), females 46.9(18.6)] and 743(58.6%) were females. There were 710 subjects from the North and 559 subjects from the southern regions of the country. Southern patients were about 10 years older than those from the north (56.3 (15.7) vs. 46.2 (18.5 years) About 1028 (81%) were married, 281(22.1%) had no formal education and this was statistically commoner in females, and 471(37.1%) were unemployed. Women were more likely to be unemployed. Only 11.8% of the participants live in rural area Co-morbidities reported in the patient records were hypertension (69%) diabetes mellitus (13.4%), atrial fibrillation (10%), ischaemic heart disease (4.7%) CKD (8.2%) and PPCM (11.8%). In our registry, the prevalence of HF with preserved ejection fraction was 55%.

Conclusion: Our registry provides contemporary information on the real world clinical profile and characteristics chronic HF, including HF with reduced ejection fraction, preserved ejection fraction and mid-range ejection fraction, that will help define ways to improve quality of care.

Submission ID: 834

MORBIDITY AND MORTALITY OF PEDIATRIC CARDIAC SURGERY: ABOUT 43 CASES

Authors:

PAPA SALMANE BA, Diagne Papa Amath, Diop Momar Sokhna
Cuomo Cardio-Pediatric Center in Fann, Dakar, Senegal

English Abstract:

The goal of this retrospective study was to evaluate results of pediatric cardiac surgery related to mortality and morbidity.

Patients and methods: It's a retrospective and analytic study based on cases of pediatric cardiac interventions in the thoracic and cardiovascular center in Fann hospital from October 2015 to August 2016. Data were analyzed using SPSS, Epi Info7, Sata and Excel software. Forty-three patients was enrolled, 56% was female. Mean age was 9 years (range: 3-15 years). Stage 2 dyspnea related to the New York Heart association functional classification was the main symptom. Rheumatic heart disease was predominant. Mitral regurgitation and tetralogy of Fallot represented respectively 28%

and 26%. The mean pump duration time was 89 min. Mean cross-clamp time was 61 min. Was done; mitral valve replacement (16,3%), aortic valve replacement (2,3%); tricuspid valve repair (9,3%), foramen ovale closure (2,3%), ventricular septal defect closure (4,7%), atrial septal defect closure (21%), tetralogy of Fallot repair (26%), infra aortic valve membrane resection (9,3%). The overall mortality was zero at 6 months follow up; Anemia (30%) was the main complication. Open Heart surgery is evolving in our country because cardiac surgeons and nurses acquired good training. It's why the overall mortality and complications related to open cardiac surgery is low.

Keywords: cardiac surgery, child, morbidity, mortality,

Submission ID: 833

INVESTIGATING THE GENETICS OF CONGENITAL HEART DISEASE IN SOUTH AFRICA USING EXOME SEQUENCING AND CHROMOSOMAL MICROARRAY

Authors:

Timothy Spracklen, Nicole Saacks, James Eales, Thomas Aldersley, Mark Verryn, Bianca de Koning, Paul Human, John Lawrenson, Blanche Cupido, George Comitis, Rik de Decker, Barend Fourie, Lenise Swanson, Alexia Joachim, Andre Brooks, Raj Ramesar, Gasnat Shaboodien, Bernard Keavney, Liesl Zühlke

University of Cape Town, South Africa

English Abstract:

Introduction: Congenital heart disease (CHD) refers to structural defects of the heart and/or blood vessels present at birth. With a prevalence of 9/1,000 live births, it is the most common birth defect and a significant cause of paediatric morbidity and mortality worldwide. The role of genetic factors in CHD is increasingly recognised, including point mutations in developmental genes and large chromosomal copy number variants (CNVs) encompassing dosage-sensitive genes. The genetics of CHD remains relatively unexplored in Africa. The Partnerships in CHD in Africa (PROTEA) study was established to better understand the epidemiology and genetic architecture of CHD in sub-Saharan Africa. In this investigation, exome sequencing and chromosomal microarray analysis (CMA) were used to determine the prevalence of disease-causing variants in PROTEA participants.

Methods: A total of 102 participants were investigated using at least one genetic test: exome sequencing (n=95) and/or CMA (n=90). The study cohort consisted of 85 patients with isolated CHD and 17 patients with non-isolated, syndromic forms of disease. Rare variants in established CHD genes were interpreted using American College of Medical Genetics pathogenicity criteria. Pathogenic exome variants were validated using sanger sequencing, while CNVs were validated using available exome sequencing data.

Results: Genomic analysis revealed a total of 5 pathogenic CNVs, 1 case of 47, XXY aneuploidy and 15 sequence mutations, yielding an overall mutation detection of 20.6%. The majority of the mutation-positive individuals had non-syndromic, isolated CHD (n=18), although 2 microdeletions and the 47, XXY case were discovered in syndromic CHD. Variants of uncertain significance were identified in 61.7% of the cohort. New genotype-phenotype relationships were observed, for example between novel mutations and Tetralogy of Fallot, and between 11q12 deletion and syndromic CHD. Four candidate genes for CHD were identified in the CMA data.

Conclusion: This investigation demonstrates the feasibility of conducting genomic research amongst CHD patients in sub-Saharan Africa, and that doing so will produce results similar to those seen in international CHD cohorts. These findings highlight the genetic heterogeneity of CHD and the growing importance of CHD genetic studies. Advancing our understanding of CHD aetiology will help define disease risk and improve the way we care for assess our cardiac patients.

Submission ID: 866

"THE NILE TECHNIQUE" APPROACH TO REPAIR BOTH FUNCTIONAL AND ORGANIC TRICUSPID VALVE DISEASE IN RHEUMATIC HEART VALVE PATIENTS

Authors:

Dr Salvatore Lentini, Dr Alessandro Salvati, Dr Mohanad Abass Ahmed, Dr Omer Salaheldeen Yousif, Dr Gennarina Portella, Mr Luca Rolla, Dr Franco Masini

The Salam Centre for Cardiac Surgery EMERGENCY NGO, Italy

English Abstract:

Rheumatic heart valve disease affects mainly the valves on the left side of the heart. The tricuspid valve is mainly affected by functional regurgitation due to annulus dilation following pulmonary hypertension. However, organic rheumatic disease may rarely affect the tricuspid valve too, resulting both in regurgitation and / or stenosis. In our Institution, since July 2016, we started to use a spectrum of original multiple techniques to repair both functional and organic disease.

Data from our surgical database were retrospectively analyzed in the 5 years period from 01.07.2016 to 30.06.2021. During this period, on a total of 2821 performed operations, 867 involved the tricuspid valve. Repair of functional regurgitation was achieved using a spectrum of annulus remodeling techniques using multiple purse string stitches. Concomitant or isolated organic rheumatic stenosis was repaired using a novel technique that finally create a bicuspidization of the repaired valve.

Patients age ranged from 5 to 55 years (mean 22). There were 61.1% female and 38.9% male. Concomitant surgery was performed mainly on the mitral valve (354 cases) and on the mitral and aortic valve together (309 cases). The remaining cases were associated to other concomitant surgeries. Euro score II ranged from 0.5 to 47.06. Extracorporeal Circulation Time (ECC) ranged from 47 to 340 min (mean 128). Aortic cross clamp time ranged from 17 to 180 min (mean 73). Postoperative mortality occurred in 3.9% of patients.

In conclusion, we present our surgical technique to repair the tricuspid valve, supported by echo graphic results and intra-operative clarifications.

Submission ID: 867

THROMBOLYSIS IN BLOCKED MECHANICAL HEART PROSTHESES: A 4-YEAR EXPERIENCE AT THE SALAM CENTRE FOR CARDIAC SURGERY – EMERGENCY NGO – KARTHOUH, SUDAN

Authors:

Dr Valentina Tolio, Dr Nicoletta Erba, Dr Gennarina Portella, Mr Luca Rolla, Dr Franco Masini

The Salam Centre for Cardiac Surgery EMERGENCY NGO, Italy

English Abstract:

INTRODUCTION: From April 2007 through December 2020, a total of 6912 operations for valve replacement have been performed at EMERGENCY's Salam Centre for Cardiac Surgery in Karthoum, Sudan. The anticoagulant therapy in the postoperative course plays a pivotal role in terms of survival.

METHOD: We retrospectively investigated our experience of systemic thrombolysis and of the use of "triple therapy" (i.e. Warfarin + Aspirin + Fractionated Heparin) on a total of 234 blocked mechanical prostheses episodes of patients who were hospitalized in poor clinical condition from January 2017 to December 2020. The thrombolytic treatment was based on rTPA one hour infusion, followed by 24 hours continuous infusion of Unfractionated Heparin which was then switched to triple therapy for the most critical patients in ICU. The triple therapy was only used for stable patients.

The aim of our study is to investigate the efficacy of such difficult treatment in this complicated and life-threatening clinical setting.

RESULTS: Of patients aged between 8 y and 66 y, 126 were female and 108 were male. Due to high trans-prostheses gradient and poor clinical conditions, 107 episodes were treated in ICU with systemic thrombolysis. 75% of treated episodes showed a good recovery of prostheses performance at fluoroscopy control and echo examination, 25% stayed blocked, 8.4% underwent REDO after multi blockage episodes treated with thrombolysis. The most involved prosthesis was the mitral prosthesis with 81 thrombolytic treatments on 166 patients, followed by aortic with 17 thrombolytic treatments on 52 patients and 9 on 15 patients with double prostheses involvements.

The overall mortality observed in the blocked prosthesis population treated with rTPA in ICU was 15.8%. The worst incidence has been observed in the sub group of aortic prostheses population (47%), followed by 9.8% mortality in mitral prostheses involvement and 11% in double valve involvement.

CONCLUSION: Our experience shows the very difficult challenge we face to contrast such a dramatic clinical state considering the overall mortality. The lack of compliance to anticoagulant therapy is the main cause of the blocked mechanical heart prostheses.

BIBLIOGRAPHY: Santé P, Renzulli M *et al.* Acute postoperative Block of Mechanical Prostheses Incidence and Treatment. Cardiovascular Surgery 2, 3, 403-406, 1994.

Submission ID: 826

DATA INDEPENDENT ACQUISITION MASS SPECTROMETRY IN SEVERE RHEUMATIC HEART DISEASE (RHD) IDENTIFIES A PROTEOMIC SIGNATURE SHOWING ONGOING INFLAMMATION AND EFFECTIVELY CLASSIFYING RHD CASES

Authors:

M. Taariq Salie, Jing Yang, Carlos R Ramirez Medina, Liesl J Zühlke, Gasnat Shaboodien, Simon Frain, Nophar Geifman, Anthony D Whetton, Bernard Keavney, Mark E Engel

University of Cape Town, South Africa

English Abstract:

Introduction: Rheumatic heart disease (RHD) remains a major source of morbidity and mortality in developing countries. A deeper insight into the pathogenetic mechanisms underlying RHD could provide opportunities for drug repurposing, guide recommendations for secondary penicillin prophylaxis, and/or inform development of near-patient diagnostics.

Methods: We conducted a proteomic study in 215 African patients with severe RHD and 230 controls, using the SWATH-MS technique. We applied a machine learning (ML) approach to feature selection among the 366 proteins quantifiable in at least 40% of samples, using the Boruta wrapper algorithm. The case-control differences and contribution to AUC of the ROC for each of the 56 proteins identified by the Boruta algorithm were calculated by Logistic Regression adjusted for age, sex and BMI. Biological pathways and functions enriched for proteins were identified using ClueGo pathway analyses.

Results: Adiponectin, complement component C7 and fibulin-1, a component of heart valve matrix, were each higher in cases when compared with controls. Ficolin-3, a protein with calcium-independent lectin activity that activates the complement pathway, was lower in cases than controls. The top 6 biomarkers from the Boruta analyses conferred an AUC of 0.90 indicating excellent discriminatory capacity between RHD cases and controls.

Conclusion: These results support the presence of an ongoing inflammatory response in RHD, at a time when severe valve disease has developed, and distant from previous episodes of acute rheumatic fever. This biomarker signature could have potential utility in recognizing different degrees of ongoing inflammation in RHD patients, which may in turn be related to prognostic severity.

Submission ID: 845

ATHEROSCLEROTIC CARDIOVASCULAR DISEASE RISK ASSESSMENT IN RENAL TRANSPLANT CANDIDATES

Authors:

Adam Ahmed, Ahmed Suliman, Abdelhadi Elsayed, Shaima Ahmed, Sarah Osman

Cardiology Research Unit, Shaab Teaching Hospital, Sudan

English Abstract:

Background: Cardiovascular disease is a significant cause of morbidity and mortality for wait-listed kidney transplant candidates. Candidates for kidney transplantation undergo an extensive evaluation of health status before surgery. Beyond perioperative risk, the potential transplant recipient has other characteristics that make cardiac evaluation important. The noninvasive tests performed has poor accuracy for the prediction of future cardiac events, only coronary angiography was able to reasonably predict patients at risk. Cardiac angiogram will be required even with a negative noninvasive stress test. Timely identification of at risk patients saves lives.

Objectives: To assess the atherosclerotic cardiovascular disease(ASCVD) risk amongst renal transplant candidates

Methods: Retrospective cross-sectional study, conducted at Ibn Sina Specialized Hospital in Sudan. Data was collected from records of renal transplant candidates who were assessed pre operatively for cardiovascular diseases. To estimate the ASCVD risk ,we used the American College of Cardiology/American Heart Association Pooled Cohort Equations cardiovascular Risk Calculator of 2013,besides some non invasive tests including electrocardiogram(ECG) (Arrhythmias, left ventricular hypertrophy(LVH),ST depression, ST elevation, T inversion, QRS duration), and echocardiography(ECHO) (Ejection fraction,LVH, valvular lesion other than valvular regurgitation(VR), VR, pulmonary artery pressure) as well as coronary Angiography findings(presence and location of obstructive disease)

Results: Total number of patients included in the study was 68. Nearly 17.6% had LVH on ECG while on ECHO 54.4% had LVH. Most of the participants(60%) had an ejection fraction between 60-70%.valvular regurgitation was reported in 27.9% of the patients. Only 7.4% of the participants underwent coronary angiography which yield normal study. The 10-year ASCVD risk among patients was 11.5%,while the lifetime ASCVD risk was 50%.However the optimal ASCVD risk was 3.4%.No statistical significance was found between 10-years ASCVD and ECG or ECHO findings (P value .522).

Conclusion: Study is the first to assess ASCVD risk among renal transplant patients in Sudan, However, the 10-year ASCVD risk among renal transplant candidates is of moderate level. The-10 year moderate ASCVD is not associated with ECG or ECHO findings. Coronary angiography is not significantly implemented to assess the ASCVD risk.

Submission ID: 835

CLINICAL CHARACTERISTICS, RISK FACTORS AND TREATMENT OUTCOMES OF VENOUS THROMBOEMBOLISM AMONG PATIENTS AT ADDIS CARDIAC HOSPITAL AND ST PAUL HOSPITAL MILLENNIUM MEDICAL COLLEGE, ADDIS ABABA, ETHIOPIA.

Authors:

Adefres Bahiru Habtemariam, Fikru Maru, Mussie Abera, Natnael Taye, Tewodros Fikremariam

Interventional cardiology, Ethiopia

English Abstract:

Background: Venous thromboembolism is the most common preventable cause of death worldwide including Ethiopia. However, its morbidity and mortality can be prevented through appropriate therapeutic and preventive measures based on well identified risk factors and high risk groups. To the contrary; the research based

and updated data on the magnitude, risk factors and outcomes of venous thromboembolism are so scarce in Ethiopia.

Objectives: is to assess clinical characteristics, risk factors and outcomes of VTE among patients at Addis Cardiac Hospital and St Paul Hospital Millennium Medical College.

Methods: A hospital based retrospective record review was done at St Paul's Hospital Millennium Medical College and Addis cardiac hospital. Data was collected from charts of 140 patients with final diagnosis of VTE who fulfilled the inclusion criteria after obtaining ethical clearance. The collected data was analyzed using SPSS, Version 24. Bivariate and multivariate logistic regression with 95% CI at $P \leq 0.05$ was used to determine factors associated the treatment outcome of Venous Thromboembolism.

Results: A total of 140 study participants included in the final analysis, about 97 (69.3%) were females. The mean age of participants was 40 with SD ± 19.67 years. The majority of patients 75 (53.6%) had DVT, the rest being PE with or without DVT. Pregnancy/puerperium (28%), history of major surgery (23%), hospitalizations >3 days (13.6%), malignancy (10.7%) and HIV (7.1%) were the most common diseases seen with VTE. Heart failure (15.7%), Hypertension (12.1%), and Diabetes (7.1%) were the most common comorbidities. 18(13%) of patients died. Malignancy (AOR=5.6, 95%CI: 1.32,24.0), hospitalizations (AOR=4.75, 95%CI: 1.18-19.15) and acute infections or conditions (AOR=6.48, 95%CI: 1.94, 21.66) were associated with death.

Conclusion and Recommendations: Venous Thromboembolism is a significant cause of morbidity and mortality in Ethiopia. Almost all of VTE cases occurred in those with one or more risk factors, pregnancy/ puerperium being the most common and unusually high death was seen young females. Identifying high risk groups and providing appropriate preventive and therapeutic measures is important.

Keywords: deep vein, thrombosis, embolism, anticoagulation

Submission ID: 860

PERIPARTUM CARDIOMYOPATHY IN NIGERIA (PEACE) REGISTRY: AN OVERVIEW OF THE RESULTS

Authors:

Hadiza Sa'idu, Balarabe A Sulaiman Nasiru A Ishaq, Idris Y Mohammed, Okechukwu S Ogah, Mohammed A Talle, Mohammed S Isa

English Abstract:

Background: PEACE registry was set up to primarily determine the burden and demographic, clinical characteristics, myocardial remodelling and survival of peripartum cardiomyopathy (PPCM) in Nigeria. We also explored the relationship between serum selenium and ventricular dysfunction in apparently healthy pregnant women, and the impact of selenium supplementation on left ventricular reverse remodelling (LVRR), change in symptoms and survival in an open-label randomised trial.

Methods: The study had 4 arms: a prospective case-control study; a longitudinal arm in which majority of the PPCM patients were followed-up for a median 17 months; the selenium supplementation proof-of-concept trial (sub-study); and the cardiac function in healthy pregnancy longitudinal study in which subjects were followed-up till after delivery(sub-study).

Results: 22 dispersed sites in Nigeria participated in the main registry, of which 3 located in the same city participated in the 2 sub-studies. To determine PPCM risk factors, 406 consecutively PPCM patients were compared with 99 apparently healthy women who had delivered within the previous 6 to 8 weeks as controls. 3 sociodemographic variables (lack of formal education, unemployment status, and underweight) and pre-eclampsia were identified as the independent PPCM risk factors. 72.3% of the patients were recruited from sites in the North-West region, where an incidence as high as 1 per 96 live births was obtained, while the disease was uncommon in the Southern regions (7.6% of all recruited patients).

A relatively high mortality rate of 18.7% and low rates for LVRR (24.1%) and LV functional recovery (22.6%) were recorded.

Selenium deficiency was found in 84.9% of the PPCM patients. Selenium supplementation did not significantly reduce the risk of all-cause mortality or LV functional recovery, but significantly reduced HF symptoms.

In the 4th arm, 108 apparently healthy pregnant women were recruited between their 28th and 38th weeks of gestation and re-evaluated at 6 to 8 weeks postpartum. LV systolic dysfunction was found in only 1 subject. Selenium deficiency ($<70\mu\text{g/L}$) was found in only 2.8% of subjects and was not associated with LV geometry and function.

Conclusion: PEACE registry is the largest study on PPCM in Africa, and the 4 arms of the registry explored different aspects of the disease. PPCM is predominantly an affliction of the poor and undernourished in Nigeria, associated with high morbidity and mortality.

Submission ID: 846

PREVALENCE AND CHARACTERISTICS OF APPARENT RESISTANT HYPERTENSION IN PATIENTS AT KENYATTA NATIONAL HOSPITAL MEDICAL OUTPATIENT CLINIC

Authors:

Masika Anne, Ogola Elijah, Mc Ligeयो Seth, Bhatt K. M Maseno University, Kenya

English Abstract:

Background: PEACE registry was set up to primarily determine the burden and demographic, clinical characteristics, myocardial remodelling and survival of peripartum cardiomyopathy (PPCM) in Nigeria. We also explored the relationship between serum selenium and ventricular dysfunction in apparently healthy pregnant women, and the impact of selenium supplementation on left ventricular reverse remodelling (LVRR), change in symptoms and survival in an open-label randomised trial.

Methods: The study had 4 arms: a prospective case-control study; a longitudinal arm in which majority of the PPCM patients were followed-up for a median 17 months; the selenium supplementation proof-of-concept trial (sub-study); and the cardiac function in healthy pregnancy longitudinal study in which subjects were followed-up till after delivery(sub-study).

Results: 22 dispersed sites in Nigeria participated in the main registry, of which 3 located in the same city participated in the 2 sub-studies. To determine PPCM risk factors, 406 consecutively PPCM patients were compared with 99 apparently healthy women who had delivered within the previous 6 to 8 weeks as controls. 3 sociodemographic variables (lack of formal education, unemployment status, and underweight) and pre-eclampsia were identified as the independent PPCM risk factors. 72.3% of the patients were recruited from sites in the North-West region, where an incidence as high as 1 per 96 live births was obtained, while the disease was uncommon in the Southern regions (7.6% of all recruited patients).

A relatively high mortality rate of 18.7% and low rates for LVRR (24.1%) and LV functional recovery (22.6%) were recorded.

Selenium deficiency was found in 84.9% of the PPCM patients. Selenium supplementation did not significantly reduce the risk of all-cause mortality or LV functional recovery, but significantly reduced HF symptoms.

In the 4th arm, 108 apparently healthy pregnant women were recruited between their 28th and 38th weeks of gestation and re-evaluated at 6 to 8 weeks postpartum. LV systolic dysfunction was found in only 1 subject. Selenium deficiency ($<70\mu\text{g/L}$) was found in only 2.8% of subjects and was not associated with LV geometry and function.

Conclusion: PEACE registry is the largest study on PPCM in Africa, and the 4 arms of the registry explored different aspects of the disease. PPCM is predominantly an affliction of the poor and undernourished in Nigeria, associated with high morbidity and mortality.

Submission ID: 871

PREGNANCY IN PATIENTS WITH MECHANICAL HEART VALVES: FOETO-MATERNAL OUTCOME IN THE POPULATION MONITORED BY ANTICOAGULATION SERVICE IN SALAM CENTRE FOR CARDIAC SURGERY – EMERGENCY NGO – KHARTOUM – SUDAN

Authors:

Dr Nicoletta Erba, Dr Suha Abdelwahab Abdalla, Dr Nada Mohammed Hasan, Dr Raffaella Baiocchi, Dr Alessandro Mocini, Ms Giulia Pedroni, Dr Gennarina Portella, Mr Luca Rolla, Dr Franco Masini
The Salam Centre for Cardiac Surgery EMERGENCY NGO, Italy

English Abstract:

Background: Pregnancy in patients with mechanical heart valve prostheses and under Vitamin K antagonists (VKA) therapy is characterized by high mortality and morbidity rates, both maternal and foetal. At the Salam Centre, patients of childbearing potential who are candidates for mechanical valve replacement are informed early on and discouraged from undertaking future pregnancies. Nevertheless, anthropological, cultural and social reasons push many women to face the clinical risks of pregnancy.

Aim: Analysis of the maternal and foetal outcome of pregnancies in patients with mechanical valve and VKA treatment, monitored by the anticoagulation service (OAT) in Salam Centre. **Methods:** Since 2017 every woman who declares to be pregnant upon access to the OAT service is submitted to fast Echo and cardiac assessment. Therapeutic abortion is suggested. In case of refusal, the patient is encouraged to continue treatment with VKA to achieve maximum protection from the risk of thrombosis. At week 36, the patient discontinues VKA and is supplied with full doses of Nadroparine (95 U/kg BID). After delivery, a full cardiac assessment is performed. All clinical events are logged on an ad hoc database.

Results: From January 2017 to 31 May 2021, 337 pregnancies involving 238 women were recorded. In 59 circumstances (17%), the woman agreed to undergo therapeutic abortion. In the remaining circumstances, the pregnancy was not interrupted either for refusal or due to it being too advanced. 162 (63%) of pregnancies were successful for the newborn, 160 for both the mother and the newborn (two women died during the puerperium). 67 (26%) pregnancies have resulted in miscarriage and 29 (11%) in intrauterine foetal or neonatal death. 13 (5.5%) women died during pregnancy, delivery or puerperium. 21 (6.2%) episodes of valve thrombosis were recorded, 4 of which fatal.

Conclusions: Pregnancy in women with mechanical heart valves is a very high-risk condition. Comparing to ROPAC International Registry data (maternal mortality and valve thrombosis 1,4% and 4,7% respectively), our results yielded even higher numbers. The wish for pregnancy is so strong that the patient often informs doctors too late for therapeutic abortion to be performed, and the fear of the side effects of VKA toward the foetus leads the patient to stop VKA. It is mandatory to change our educational approach before and after surgery and to play an active role in anticoagulation decision-making for pregnant women.

Submission ID: 832

RESULTS OF TWO-YEARS' EXPERIENCE IN PEDIATRIC AND CONGENITAL CARDIAC SURGERY IN SENEGAL

Authors:

PAPA SALMANE BA, Momar Sokhna Diop, Papa Amath Diagne, Amadou Gabriel Ciss
Thoracic and Cardiovascular Surgery Center, Cheikh Anta Diop University, Dakar, Senegal

English Abstract:

Introduction: It is a descriptive analysis of two –years' experience related to morbidity and mortality in a new center of pediatric and congenital cardiac surgery.

Patients and method: this study took place in the Centre Cardio-Pédiatrique Cuomo in Fann hospital, center in Dakar from January 2017 to December 2018. All pediatric patients were operated on because of their rheumatic or congenital cardiac anomalies. The Excel software was used for the statistical analysis of data before and after surgery.

Results: over two years we had performed 339 operations on 319 patients.

The average age was 9 years, with a sex ratio of 1. We had performed 50 cures of tetralogy of Fallot, 45 cures of interventricular communication, 20 cures of interatrial communication, 13 cures of the atrioventricular canal. In rheumatic valve disease, mitral valve replacement predominated followed by mitral valve replacement. The morbidity rate was 9% in 2017 and 26% in 2018. The mortality rate was 3.4% in 2017 and 3.78% in 2018.

Conclusion et recommendations: cardiac heart surgery is growing in our country and the quality of care is effective and efficient. This is reflected in the mortality and morbidity rate.

Submission ID: 865

ANTHROPOMETRIC INDICES OF OBESITY, ATHEROGENIC INDEX OF PLASMA, HOMA-IR, AND CARDIORESPIRATORY FITNESS: A CROSS-SECTIONAL ANALYSIS IN BLACK SUB-SAHARAN AFRICAN HYPERTENSIVE PATIENT

Authors:

KIANU PHANZU Bernard, NKODILA NATUHOYILA Aliocha, KINTOKI VITA Eleuthère, LONGO-MBENZA Benjamin, M'BUYAMBA KABANGU Jean-Réné

University Hospital of Kinshasa, Cardiology Unit, Democratic Republic of the Congo

English Abstract:

Background: Obesity, dyslipidemia, and insulin resistance (IR) often coexist and are associated with impairment in cardiorespiratory fitness (CRF), a surrogate marker of cardiovascular and overall mortality risk. However, the association of these metabolic syndrome features and CRF independent of each other and other potential confounders is unknown.

Methods: Participants underwent a comprehensive assessment of anthropometric measures, glucose and lipid metabolism disorder, and maximal incremental cardiopulmonary exercise test (CPET). The atherogenic index of plasma (AIP) was calculated as $\log [TG/HDL-C]$. The CRF was expressed as maximal oxygen uptake (VO₂max). The cross-sectional associations of anthropometric indices of obesity, namely waist circumference (WC) and body mass index (BMI), AIP, and homeostasis model assessment of insulin resistance (HOMA-IR) with CRF after adjustment for sedentary time and other potential confounders (independent variables) were assessed using multivariable linear regression analysis.

Results: The study included 126 newly diagnosed hypertensive participants (65,1% male). Thirty one (24.6%) (50,7±10,6 years) participants had impaired CRF. In multivariate adjusted analysis, 32.8% of variation in VO₂max ($R^2 = 0.328$; overall $p = 0.018$) were explained by IMC and sedentary time. In the logistic regression model, the AIP increased the risk of CRF impairment by twelfold [aOR 12,28; 95 ((1,10-16,58); $p = 0,041$], and IR increased this risk by sixfold [aOR 5,96; 95% CI (2,00-17,74); $p = 0.001$].

Conclusions: Elevated AIP and IR are associated with impairment in CRF, suggesting the paramount importance of IR and dyslipidemia management in cardiovascular prevention of hypertensive patients.

Keywords: BMI, WC, AIP, CPET, CRF, Obesity, sedentary, hypertension

Submission ID: 912

REGIONAL DIFFERENCES IN THE CLINICAL CHARACTERISTICS OF CHRONIC HEART FAILURE IN NIGERIA: INSIGHTS FROM THE NIGERIA CHRONIC HEART FAILURE REGISTRY

Authors:

Okechukwu S Ogah, Hadiza Seidu, Kamilu M Karaye, Rasaq Adebayo, Amam C Mbakwem, Umar G Adamu, Saheed O Adebayo, Taiwo Sogade, Adewole Adebiji, Akinyemi Aje, Abiodun M Adeoye Mahmoud U Sani

Cardiology Unit, Department of Medicine, University of Ibadan/ University College Hospital Ibadan, Nigeria

English Abstract:

Introduction: Regional differences in clinical profile and characteristics of heart failure have been demonstrated in many parts of the world. This data is not available in Nigeria. The objective of this study was to compare the demographics and clinical characteristics in northern and southern Nigeria.

Methods: In eight participating centres in the country, we recruited 1269 unselected real-world patients with chronic HF in a national registry. Heart failure was diagnosed according to the ESC guidelines, based on signs, symptoms and structural and/or functional cardiac abnormalities. We obtained information on diagnostics, treatment and co-morbidities were recorded.

Results: There were 710 subjects from the North and 559 subjects from the southern regions of the country. Southern patients were about 10 years older than those from the north (56.3 (15.7) vs. 46.2 (18.5 years) There were significant differences in the sociodemographic characteristics of HF subjects from the two regions. Hypertension as an aetiological risk factor for HF tends to be commoner in the South while cardiomyopathies especially peripartum cardiomyopathy and ischaemic heart disease appears to be commoner in the North. Although symptoms and signs of HF were worse in patients from the North, echocardiographic structural alterations appears to be worse in patients from Southern Nigeria

Conclusions: Chronic HF patients from Northern and Southern Nigeria differ significantly in their demographics and clinical characteristics. These differences underscore the importance of region-specific HF prevention and management strategies.

Keywords: Cardiac failure, Heart failure, LV dysfunction, Epidemiology of heart failure, Global health, Nigeria

Submission ID: 913

RIGHT VENTRICULAR FUNCTION IN NEWLY DIAGNOSED HYPERTENSIVE SUBJECTS IN ABEOKUTA, OGUN STATE NIGERIA

Authors:

Julius Oluwatoyin Adesina, Taiwo O. Olunuga, Okechukwu S. Ogah, Amina Durodola, Saheed O. Adebayo

Nigerian Cardiac Society, Nigeria

English Abstract:

Background: Right ventricular systolic and diastolic function in newly diagnosed patients has not been well documented and effect of systemic hypertension on the right ventricular global and segmental changes minimally studied hence this study was carried out.

Objectives: The objective were to determine right ventricular function in newly diagnosed hypertensive subjects using echocardiography.

Methods: The study design was descriptive and cross sectional.. Demographic and clinical information were obtained from 102 newly diagnosed hypertensive subjects and 105 healthy normotensive controls. Tricuspid annular plane systolic excursion (TAPSE) was used to assess systolic longitudinal function.

Results: The mean age for cases and controls was 43.25 ± 9.13 years and 43.25 ± 9.32 years respectively. The mean TAPSE was comparable between cases and controls (23.69 ± 4.04 vs 24.59 ± 4.80) p=0.09. Mean right ventricular myocardial performance index (RVMPI) and isovolumic contraction time (IVCT) were significantly higher in cases compared to controls (0.79 ± 0.18 vs 0.62 ± 0.13; 1.15 ± 0.36 vs 0.93 ± 0.27 respectively) p < 0.001 while the right ventricular ejection time (RVET) was reduced in cases than in controls (235.15 ± 49.39 vs 258.75 ± 32.18) p = 0.02. Right ventricular diastolic dysfunction was more prevalent in the hypertensive subjects than in the controls.

Conclusion: This study showed significant RV diastolic dysfunction in newly diagnosed hypertensive subjects even before significant impairment of RV systolic function occur.

Keywords: Hypertension, Right ventricular function, Left ventricular function

Submission ID: 898

GENDER RELATED DIFFERENCE OF SUDDEN CARDIAC DEATH IN YOUNG EGYPTIAN PATIENTS

Authors:

Hend ali, Ahmed nabil, Samir sorour, Hayam eldamanhoury, Mervat aboulmaaty

Cardiology specialist, Ain shams university

English Abstract:

Background: Because sudden cardiac death in young people remains a major health problem, studies are needed to identify population at high risk

Aim of the Work: To study the characteristics of SCD/SCA in young Egyptian population.

Patients and Methods: From January 2010 to January 2020, 246 patients with SCD/SCA in the age group 2 – 40 years were analyzed using a cohort from electrophysiology clinic which included 5000 patients. All patients and/or their first-degree relatives were subjected to thorough history taking, clinical evaluation, electrocardiogram and echocardiography. Further non invasive or invasive evaluation were done when indicated. The families were contacted by phone and were invited for further work flow. Patients were divided into two age groups: 2- 12 years and 12-40years.

Results: The mean age was 26±12years. SCD/SCA occurred more in males which constituted 57% of the whole study population and the most common cause of SCD/SCA was hypertrophic cardiomyopathy. In the age group 2 -12 years males constituted 44.7% and females constituted 55.3% and the most common cause of death was long QT syndrome. Whereas in the age group between 12-40years, males were 59.8% and females were 40.2 % and the most common cause was hypertrophic cardiomyopathy.

Conclusion: Hypertrophic cardiomyopathy was the most common cause of SCD/SCA when males had been higher than females in the whole population and in between 12 – 40 years. Long QT was the most common cause of SCD/SCA when females had been higher in the age group 2 -12 years.

Key words: Risk Factors, sudden Cardiac death, below 40 years patients

Submission ID: 917

PERCEPTIONS AND EXPERIENCES OF LIVING WITH HEART FAILURE AMONG PATIENTS IN A CARDIAC REHABILITATION PROGRAM IN KENYA

Authors:

G. Titus Ngeno, Sylvia Kitur, Protus Musotsi, Felix Barasa, Jemima Kamano, Edith Kwobah, Charity Wamboi, Cynthia Binanay, Joseph R. Egger, Peter s. Kussin, Nathan M. Thielman, Gerald s. Bloomfield, William E Raus

Duke University, USA

English Abstract:

Background: Heart failure (HF) is associated with a high burden of symptoms, reduced quality of life, and psychological effects on patients and their families. Whereas several therapeutic interventions for HF are now available, utilization remains poor. Understanding local patient perceptions and health experiences is a critical step towards patient engagement. We sought to understand the perceptions and experiences of patients afflicted with HF participating in the first cardiac rehabilitation program in Western Kenya.

Methods: We conducted 30 in-depth interviews and 3 focus group discussions (FGDs) among patients with HF. Participants were enrolled in the Feasibility of Cardiac Rehabilitation for Heart Failure (FCR-HF) trial at the Moi Teaching and Referral Hospital (NCT02795936). In-depth interviews and FGDs were digitally recorded, transcribed, and translated from Kiswahili to English. Transcripts were coded and analyzed using a thematic analysis approach.

Results: Participants did not clearly understand HF before, or after being diagnosed. Heart failure was perceived to result from causes such as high blood pressure, birth defects, use of alternative medicine and witchcraft. Participants sought healthcare from both conventional and traditional health practitioners. Misdiagnosis was cited as a major contributing factor to late presentation. The diagnosis of HF was depressing to many, and unexpected. Health workers were noted to play a crucial role in giving patients hope. Participants reported improvement while on treatment although adherence was variable. Compliance was supported by fear of symptom progression and hindered by the cost of treatment, and lifestyle changes. Participants worried about the heavy social and economic burden they placed on their caregivers.

Conclusion: Poor understanding of HF contributes to poor treatment adherence and promotes maladaptive health practices. Patients with HF faced numerous challenges which negatively impacted their perceived well-being.

Impact: Our study offers crucial new insight into the experiences of patients with HF in Western Kenya including coping strategies not previously explored. Understanding these perspectives can inform policy, health education, and thereby improve HF outcomes.

Submission ID: 911

THREE PILLARS OF MYOCARDIAL INFARCTION TREATMENT AND RESPONSE TO CARDIAC RESYNCHRONIZATION THERAPY

Authors:

Christopher O. Osagie, Okechukwu S. Ogah, Abiodun M. Adeoye, Akinoyemi Aje, Adewole A. Adebijoyi, Olulola O. Oladapo, Sanjiv Petkar
Heart and Lung Centre, New Cross Hospital, The Royal Wolverhampton NHS Trust, Wolverhampton, West Midlands, United Kingdom

English Abstract:

Cardiac Resynchronization Therapy (CRT) is a non-surgical device treatment of heart failure with reduced ejection fraction after an

unsatisfactory response to optimal tolerated medical therapy. Response to CRT has been non-uniform with some patients failing to respond despite meeting the selection criteria. The study assessed the contribution of the background treatment modality for myocardial infarction to CRT response and the post CRT events in patients with ischaemic cardiomyopathy.

The study was a retrospective analysis of electronic records of consecutive patients who had CRT implantation for ischaemic cardiomyopathy between March 2017 to February 2019. Only 33 of the 80 patients who underwent CRT during this period met the selection criteria and were included. This cohort was sub grouped, based on the most advanced management received for ischaemic heart disease prior to CRT viz. medical, percutaneous coronary intervention (PCI) and coronary artery bypass grafting (CABG). The echocardiographic measurements pre and approximately one year post CRT were analysed. At least 15% reduction in left ventricular end systolic volume (LVESV) was defined as a positive response. Events (ventricular arrhythmias treated with shocks/ anti-tachycardia pacing, admission for heart failure and mortality) developing within two years of receiving the CRT were also analysed.

The mean age of participants was 75.3 ± 8.1 years with males constituting 84.8%. The medical, PCI and CABG groups constituted 27.3%, 33.3% and 39.4% respectively. The mean LVESV prior to the intervention was 123.8 ± 56.2 ml while the mean LVESV post CRT was 104.8 ± 45.9 ml. The proportion of responders was 88.9%, 72.7% and 30.8% for the medically treated, PCI and CABG group respectively ($p = 0.014$). At the two-year post CRT review, 15.2% of patients received at least a single ATP, 6.1% had treatment with at least a shock, 9.1% were admitted for heart failure and another 9.1% had died. There was no statistically significant difference in the post CRT ventricular arrhythmias treated with ATP/ shocks, admission for heart failure, mortality and composite of these outcomes between the three prior treatment groups.

Medically managed ischaemic cardiomyopathy patients appear to have a better response to CRT compared with those with prior PCIs and CABGs. Background management modality of ischaemic heart disease may be an important consideration when selecting this cohort for CRT implant.

Submission ID: 895

MEDICATION ADHERENCE AND ASSOCIATED FACTORS AMONG HYPERTENSIVE PATIENTS ATTENDING JAKAYA KIKWETE CARDIAC INSTITUTE

Authors:

Makrina Komba, Zabella S. Mkojera, Jalack Millinga, Smita Bhalia, Henry Mayala, Mohamed Janabi

Jakaya Kikwete Cardiac Institute, Tanzania

English Abstract:

Background: Notwithstanding the widespread use of blood pressure lowering medications, hypertension which affects a quarter of the global population is having its biggest toll in the sub Saharan Africa region (prevalence 46%). Suboptimal adherence, a key contributor to uncontrolled hypertension, is associated with development of hypertensive complications, higher risk of cardiovascular events and poor survival prospects. In this cross-sectional hospital-based study we aimed to explore the prevalence, pattern and associated factors for medication adherence among outpatient hypertensives attending Jakaya Kikwete Cardiac Institute.

Methods: A structured questionnaire was utilized for data collection and standard protocols were observed in all clinical measurements. Chi-square and student's t-test analytical techniques were utilized for comparison of categorical and continuous variables respectively. Linear regression was employed in the assessment of associated factors. All analyses were two-sided and a $p < 0.05$ was used to denote significance.

Results: A total of 849 patients with history of hypertension were consecutively enrolled in this study. The mean age was 59.9 years and about two-thirds were females. 14.4% had history of diabetes mellitus, 11.7 had history of stroke, 9.2% had history of chronic kidney disease and 11.4% had heart failure. Angiotensin receptor blockers (55.7%), diuretics (45.6%), calcium channel blockers (41.2%) and beta-blockers (31.5%) were the frequently prescribed classes of antihypertensive drugs. Overall, 56.8% had poor blood pressure control and 23.1% had not taken their prescribed medications in the last 24 hours. Disease fatigue (58.3%), running out of drugs before next appointment (39.9%), forgetfulness (38.3%), and high cost of medications (33.2%) were the leading barriers to adherence in this present study. Multivariate logistic regression analyses revealed infrequent blood pressure measurement (OR 1.7, 95%CI 1.2-2.5, $p < 0.01$), irregular clinic attendance (OR 2.4, 95%CI 1.7-3.3, $p < 0.001$), frequent unavailability of drugs (OR 1.8, 95%CI 1.1-3.1, $p = 0.03$), running out of medications before next appointment (OR 1.6, 95%CI 1.1-2.2, $p = 0.01$) and consumption of medications when symptomatic (OR 1.7, 95%CI 1.2-2.5, $p = 0.001$) were independently associated with increased likelihood of nonadherence.

Submission ID: 875

OBSTRUCTIVE SLEEP APNEA AND ASSOCIATED FACTORS AMONG HYPERTENSIVE PATIENTS ATTENDING A TERTIARY CARDIAC CENTER IN TANZANIA: A COMPARATIVE CROSS-SECTIONAL STUDY

Authors:

Zabella S. Mkojera, Lucy Mgopa, Makrina Komba, Smita Bhalia, Jalack Millinga, Henry Mayala, Mohamed Janabi
Jakaya Kikwete Cardiac Institute, Tanzania

English Abstract:

Background: There is mounting evidence for a reciprocal yet bidirectional association between sleep-disordered breathing and hypertension. Obstructive sleep apnea (OSA), a common cause of systemic hypertension is an independent risk factor for hypertension-related cardiovascular morbidity and mortality. In this comparative hospital-based cross-sectional study, we sought to explore the burden of obstructive sleep apnea and its associated risk factors among hypertensive patients attending Jakaya Kikwete Cardiac Institute.

Methodology: A total of 1974 individuals (i.e. 1289 hypertensive and 685 normotensives) were consecutively enrolled in this study. The Berlin questionnaire and Epworth Sleepiness Scale were utilized in the assessment of OSA and excessive daytime sleepiness (EDS) respectively. Logistic regression analyses were employed in the determination of associated factors for OSA.

Results: The mean age was 53.4 years and females constituted the large majority (60.4%) of participants. About three quarters (74.1%) of participants had excess body weight, 11.6% had diabetes, 8.0% had asthma and 18.6% had history of recurrent nasal congestion. Positive family history of snoring was reported by 43.1% of participants and 36.9% had a personal history of snoring. Persons with hypertension displayed a higher frequency (42.1%) of OSA compared to their normotensive counterparts (11.8%), $p < 0.001$. Multivariate logistic regression analyses revealed hypertension (OR 5.1, 95% CI 3.2-8.2, $p < 0.001$), diabetes mellitus (OR 2.2, 95% CI 1.3-3.5, $p < 0.01$), chronic nasal congestion (OR 1.6, 95% CI 1.1-2.5, $p = 0.01$), obesity (OR 2.4, 95% CI 1.8-3.3, $p < 0.001$), increased neck circumference (OR 2.7, 95% CI 1.2-6.4, $p = 0.02$), family history of snoring (OR 5.5, 95% CI 4.0-7.5, $p < 0.001$), and working > 8 hrs/24hr (OR 0.6, 95% CI 0.4-1.0, $p = 0.03$) to have an independent association for OSA. Furthermore, participants with hypertension displayed superior odds for OSA compared to their normotensive counterparts across all subgroup analyses.

Conclusion: OSA is considerably common among hypertensives in a tertiary health care setting in Tanzania. Positive family history of

snoring was the strongest associated factor; however, excess body weight proved to be the strongest modifiable risk factor. In view of its pervasiveness, OSA should be an integral part of the medical evaluation in hypertensive individuals.

Submission ID: 884

SURGICAL MITRAL REPAIR: INDICATION, RESULTS AND FOLLOW-UP AT THE CUOMO PEDIATRIC CARDIAC CENTRE FANN HOSPITAL DAKAR SENEGAL

Authors:

SARR M, DIOP IB
FANN HOSPITAL DAKAR, SENEGAL

English Abstract:

Introduction: Rheumatic heart disease in general and particularly mitral regurgitation are very frequent in our region. They lead to serious complications (endocarditis, refractory heart failure). Early diagnosis optimal medical management and access to surgery for eligible patients can dramatically improve prognosis and quality of life of the patients. Surgical valvuloplasty if possible should be preferred to mitral valve replacement because of significant advantages in terms of survival and postoperative events.

Methodology: We conducted a retrospective study (April 2017 to May 2021). The purpose of our study was to report the results of surgical management of rheumatic mitral regurgitation in our Institution. We analyzed the reliability of pre-operative cardiologists mitral repair indication, the rate of per-operative conversion to mitral valve replacement and the mid and long-term post-operative results and complications of surgery.

Results: We collected 74 cases of surgical mitral repair. The mean age of our patients was 11.97 years. The sex ratio was 1.17. Operative result of mitral repair was good in 91% of cases. Following the failure of the conservative surgery diagnosed by per-operative TEE an immediate valvular replacement was carried out in three cases (4.5%) and delayed in one case (1.5%). Post-operative complications were pleural effusions (1.3%), pneumonia (1.3%), functional renal failure (1.3%), a large intra-pericardial hematoma (1.3%) and two cases complete atrioventricular block (2.7%). The mortality rate was 5.4%.

Conclusion: Rheumatic mitral regurgitation must be diagnosed early to discuss optimal management strategy and lead experience team to propose conservative surgery if possible. Pre and per operative TEE can help in identifying patients eligible to mitral repair. This procedure should be preferred to mitral valve replacement because it is less expensive and avoids complications of lifetime anticoagulant treatment.

Keywords: Surgical mitral repair - Mitral regurgitation - Transesophageal Echocardiography

Submission ID: 915

BUILDING HEALTH SYSTEM RESILIENCE FOR NCDS FOR CURRENT AND FUTURE PANDEMICS

Authors:

Nelson Ochieng', Allan Mackenzie, Ashling Mulvaney
AstraZeneca, Kenya

English Abstract:

Background: Covid-19 (C-19) has led to major disruption of health services. Healthy Heart Africa (HHA) has been working with local

health systems to promote awareness, screening, training, and linkage to care for hypertension (HTN) in 5 countries since 2015. The onset of the Covid-19 (C-19) pandemic led to major disruptions in screening activities. We report here the disruption and the mitigation measures that were initiated to sustain program activities.

Methods: The following mitigation strategies were adopted:

At the beginning of the pandemic, community-based funds were reallocated to provide Personal Protective Equipment (PPEs) and train Health Care Worker's (HCWs) on Ministry of Health (MOH) safety protocols, facility screenings were strengthened and Electronic Medical Record (EMR) use intensified.

HTN screening was integrated into other services like C-19 vaccine rollout with digital applications being used to track HTN screening and diagnosis. Local leaders supported an awareness drive in the community to encourage facility visits and screenings.

Results: Prior to Covid-19, HHA was screening between 170,000 to 250,000 persons per month in Kenya. With the onset of the pandemic, the numbers drastically reduced to less than 90,000 persons screened per month. Initiation of the mitigation measures led to recovery though the numbers have not reached pre-covid levels, as shown in the figure. With screenings of > 170,000 persons per month in the last couple of months.

Conclusions: HHA quickly adopted new strategies during the Covid 19 pandemic in supporting access to HTN screening and care services. Through these strategies, there has been a steady increase in screening numbers after the disruption caused by Covid 19 despite no community outreach activities. By partnering with local (Non-Governmental Organizations) NGOs to strengthen health systems, HHA is supporting the development of resilient health systems.

Submission ID: 935

MAY MEASUREMENT MONTH: ANALYSIS OF TRENDS BLOOD PRESSURE SCREENING RESULTS IN KENYA BETWEEN 2017 AND 2019

Author:

Lilian Mbau
Kenya Cardiac Society, Kenya

English Abstract:

Background: Hypertension remains the leading cause of death globally. Majority of patients in Africa are not aware and blood pressure (BP) control rates remain low. May measurement month (MMM) is an annual global BP screening campaign spearheaded by the International Society for Hypertension (ISH) in 2017 to raise awareness on hypertension. Kenya has participated in the last 3 campaigns in 2017, 2018 and 2019. We describe the trends in the BP screening results across the 3 years.

Methods: The population comprise adults (≥ 18 years) screened at different sites across Kenya during the Global May Measurement Month (MMM) campaigns conducted in 2017, 2018 and 2019. Screening was conducted at health facilities, market places, prisons, urban centers, religious institutions and learning institutions. Ideally three BP readings were taken and the average of the last two readings documented along with the pulse rate, height, weight, demographics, medical history, screening location, self-reported awareness of hypertension status, medication used, risk factors and comorbidities. For those participants missing either the second or third BP measurement (or both), multiple imputation using chained equations was used to estimate the missing mean reading. Mixed-effects models were used to evaluate associations between blood pressure and participant characteristics.

Results: A total of 98,387 individuals were screened across the

3 years majority of whom were female (56%). The mean age of those screened was 38.9, 39.95 and 42.5 years in 2017, 2018 and 2019 respectively. After multiple imputation, overall 20,986 (21.3%) were hypertensive. The prevalence of raised BP increased over the 3 years from 24.6% in 2017 to 26.1% in 2019. Patients with raised BP who were aware increased from 30.7% in 2018 to 34.5% in 2019. Of the patients on treatment, control rates increased over the 3 years from 45.5% in 2017 to 59.7% in 2019. There was a progressive increase in overall BP control though the rates remained low to 18.8% in 2019. Excess weight was consistently associated with raised BP across the three campaigns. Other factors associated with raised BP were diabetes, alcohol use, treatment for hypertension and hypertension in previous pregnancy.

Conclusion: Prevalence of raised BP is on the rise. Despite improvement in BP control, rates remain alarmingly low. Lifestyle interventions targeting weight management and diabetes prevention are needed. Programmes such as MMM are significant and have potential to improve hypertension awareness, treatment and blood pressure control rates.

Submission ID: 938

GLOBAL LONGITUDINAL STRAIN TO PREDICT PACING INDUCED VENTRICULAR DYSFUNCTION

Authors:

Medhat M Ashmawy, Ayman Mohamed El Said, Samia M Sharaf El-Din, Yasser H El-Barbary
Tanta University, Egypt

English Abstract:

Background: Right ventricular pacing has been associated with detrimental effects on the left ventricular (LV) systolic function leading to reduction in the left ventricular ejection fraction (LVEF) and development of pacing induced ventricular dysfunction (PIVD). We investigated whether global longitudinal strain (GLS) measurement using 2D speckle tracking echocardiography can be used to identify patients at higher risk of developing PIVD.

Aim: The aim of this work was to study the effects of right ventricular pacing on left ventricular systolic function by measuring global longitudinal strain.

Methods: The study included 50 patients with normal LVEF ($\geq 55\%$) who underwent single chamber pacemaker implantation for Mobitz type II and high grade atrioventricular block. LVEF and GLS measurements were assessed by 2D speckle tracking echocardiography at baseline before pacemaker implantation and at 1 month and 12 months follow up post implantation.

Results: At 12 months follow up, 14 (28%) patients developed PIVD; 4 of whom developed pacemaker induced cardiomyopathy (PICMP). At the one month follow up period, the GLS was significantly reduced in the 14 patients who subsequently developed PIVD at 12 months, compared to those who did not show significant decline in EF ($n = 38$) (GLS -12.46 ± 2.77 vs -16.05 ± 2.57 ; $p = 0.001$). The ejection fraction was also significantly reduced in this group at 1 month follow up compared to those without PIVD (EF 53.57 ± 5.05 vs 61.28 ± 4.67 respectively; p value = 0.001). When the 4 patients with PICMP were excluded, only the 1-month GLS showed significant reduction compared to the baseline.

Conclusion: Global longitudinal strain one month following pacemaker implantation had high predictive accuracy for identifying patients at risk for subsequent development of PIVD.

Keywords: Right Ventricular Pacing, Left Ventricular, 2D Speckle Tracking Echocardiography

Submission ID: 969

LEVEL OF PREPAREDNESS FOR THE MANAGEMENT OF ACS AND STEMI IN THE LEADING PUBLIC FACILITIES OF THREE KENYAN COUNTIES

Authors:

DR Hassan Adan Ahmed, Caroline Cherotich Mutai, Teddy Oracha, Redempta Kimeu., Hazel Mburu, Ken Kipkulei, Robert Mathenge, Harun Otieno, Abdirizak Mohamud, Caleb Wanjala, Beatrice Murage, Caroline Gitinga, Hashaam Varwani, Lorraine Akinyi

AKUHN, Kenya

English Abstract:

Objectives: To carry out a situational analysis of select county hospitals including but not limited to healthcare worker skills and knowledge and the facilities' resources and preparedness in ACS diagnosis and management

Background: The Heart Attack Concern-Phillips foundation ACS project is a collaboration with the health ministries of three county governments in Kenya which is dedicated to improving access to timely and quality heart attack care for the inhabitants of Kiambu, Embu and Garissa. We set out to chart and grade the level of preparedness for ACS care according to six constructs: a) Presence of in-house protocols of care; b) Timely diagnosis; c) Appropriate monitoring and resuscitation; d) Timely delivery of antiplatelet and reperfusion therapy; e) Escalation and de-escalation processes and f) availability of local expertise.

Method: A multi-layered and cross-sectional survey of multiple county hospitals and facilities in Embu Kiambu and Garissa skills was used to assess these six constructs. This was accompanied by independent verification of local resources of healthcare workers. The availability of ECG machines in the emergency department, availability of thrombolytics, the rate of dissemination of cardiac enzyme results, mode of patient transfer in case of emergencies, existence of a STEMI and Cardiac protocol and referral networks were captured in a structured questionnaire.

Results: Our study confirms good correlation between locally surveyed perceptions and the actual reality on the ground and reveals significant variation across level 4 and level 5 facilities indicating non-uniformity in access to emergency care. The most prepared facilities remain significantly unprepared for timely care of ACS patients. None of the surveyed facilities had a dedicated chest pain or ACS protocol, ECG machines are largely localized to level 5 facilities, but no facility can perform an ECG within 10 minutes of arrival. Access to reperfusion therapy remains the most severe shortfall. Moreover, there was a deficiency in skills and knowledge of performing, interpretation ECG and diagnosing and managing STEMI.

Conclusion: A structured approach to diagnosing and managing ACS patients is needed. There is urgent need for resource mobilization, training of healthcare workers, provision of ECG, provision of thrombolytics and establishment of an elaborate referral network.

Submission ID: 928

EVALUATION OF CONGENITAL HEART DISEASE TAKE CARE BY THE GOVERNMENTAL ORGANIZATION TERE DES HOMMES SÉNÉGAL: DESCRIPTIVE STUDY ABOUT 505 CASES FROM 1974 TO 2020

Authors:

BODIAN Malick, BALDE El Hadji Yaya, SARR Simon Antoine, MINGOU Joseph Salvador, BICHARA Abderamane, LEYE Mohamed, BA Papa Salmane, AFFANGLA Alain Désiré, IBOUROI Hanifa Ismael, SYLLA Papa Mactar, AKANNI Stéphanie, NDIAYE Mouhamadou Bamba, DIAO Maboury

SOSECAR, Sénégal

English Abstract:

Introduction: Congenital heart disease (CHD) are flaws in the structure of the heart and the major vessels with which one is born. Their management, especially surgically speaking is not easily affordable for our population. Thanks to NGOs, many of our patients with modest incomes were taken care of abroad. That is how we were able to perform this study with our main goal being the long term evaluation of congenital heart defects by the NGO Terre Des Hommes Senegal.

Methodology: It was about a retrospective, descriptive study on a 46 years period (January 1st 1974 to December 31st 2020), including all patients suffering from CHD taken care by the NGO TDH Sénégal.

Résultats: During the study period, we reviewed 505 files. The mean age at the time of the diagnostic was 23.1 years with (1 day and 15 years). The mean age of the children at the moment of the surgical operation was 5.42 years old (1 month and 17 years old). The male sex was accounted for 61% with. A notion of parental consanguinity was found in 64 patients (13%). Cyanotic CHD was the most frequent with a percentage of 60% among which tetralogy of Fallot accounted for 45.5%. Regarding the non-cyanotic CHD (40%), ventricular septal defect was by far the most frequent (58%) and accounted for 23% of the whole group of congenital heart disease. A medical treatment was started on 78% of the patients. Interventionnel catheterisation was required on 2 patients. The surgical treatment of the patients was done at 96% in Europe, and the rest in Africa among which 2% was in Senegal. Switzerland is the country that hosted most patients with 369 (76%) of transfers. Five patients died before surgery. Palliative surgery was performed on 30 patients (6.0%) et curativ surgery were performed on 496 patients (99.2%) among the 500 remaining patients. The global mortality was 2%. The mean follow-up were 13 years (1 month et 33 years). Over the course of the evolution, we highlighted the onset of a severe pulmonary stenosis (17 cases), severe aortique (5 cases) and tricuspid (4 cases) insufficiency, third degree AV block (4 cases) and infective endocarditis (4 cases). The major part of the patients had a good evolution after their surgery.

Conclusion: Our study shows that most CHD operated on are made of complex cardiopathy. Their adequate management with the help of the NGO TDH provided excellent results in the long term.

Key words: congenital heart disease, cardiac surgery, echocardiography, Dakar

Submission ID: 970

TRAINING OF HEALTHCARE WORKERS IN SELECT COUNTY HOSPITALS ON STEMI DIAGNOSIS AND MANAGEMENT

Authors:

Mohamed Jeilan, Hassan Adan Ahmed, Caroline Mutai, Teddy Oracha, Redemptor Kimeu, Hazel Mburu, Ken Kipkulei, Robert Mathenge, Harun Otieno, Abdirizak Mohamud, Caleb Wanjala, Beatrice Murage, Caroline Gitonga, Hasham Varwani, Lorraine Akinyi

AKUHN, Kenya

English Abstract:

Objectives: To equip the healthcare workers in the selected facilities with the necessary skills and knowledge in performing and interpreting of ECG, knowledge on acute coronary syndrome, management of complication of STEMI (ACLS and BLS) in the context of STEMI and its anticipated complications.

Background: There is a steep rise in cardiovascular disease (CVD) burden in Kenya. It is estimated that 50% of patients suffering from heart attack die before arrival to hospital. It is on this backdrop that HACK conducted a baseline survey in selected county facilities. The survey revealed deficiency in the skills and knowledge of healthcare workers as far as ECG and STEMI care is concerned.

Method: A hybrid system of webinar and hands-on training was used to equip selected healthcare workers from the six facilities skills and knowledge on ECG, ACLS and acute coronary syndrome.

Pre- and post-test questionnaire was then administered to the trainees to ascertain attained level of adequacy.

Results: A total of 75 healthcare workers were trained on STEMI care and management. Only 22% of the participants had prior advanced cardiac life support (ACLS). Prior to the training Only 40% were able to obtain a 12 lead ECG. After training, 97% of the participants were able to confidently perform an ECG. A paltry 7.4% of the participants were confident in diagnosing an ST-elevation myocardial infarct based on clinical presentation and ECG. This figure rose to 70% after the training. 7.4% and 60% of the participants were able to use a manual defibrillator confidently pre and posttest respectively. In addition, all the participants were trained on setting up a tailor-made chest pain protocol for the respective counties as well as thrombolytics management in the setting of STEMI.

Conclusion: A virtual and focused hybrid platform is able to transfer skills and knowledge in ACS diagnosis and management across several themes effectively and impactfully. The training has conferred healthcare workers with the necessary skills and knowledge of diagnosing and managing STEMI at level 5 and level 4 hospitals.

Submission ID: 957

ECHOCARDIOGRAPHIC AND NOVEL 2D- SPECKLE TRACKING MEASURES IN HFrEF PATIENTS WITH SINUS RHYTHM AND ATRIAL FIBRILLATION

Authors:

Nene Mboweni, Muzi Maseko, Nqoba Tsabedze
University of the Witwatersrand, School of Physiology, South Africa

English Abstract:

Atrial fibrillation (AF) is the most common cardiac arrhythmia and a major complication of heart failure with reduced ejection fraction (HFrEF). The presence of AF in the context of HFrEF confers an additional risk of mortality and morbidity. In patients with HFrEF/AF, measures such as left ventricular ejection fraction (LVEF) have been shown to be of limited prognostic utility. Left atrial strain is a novel measure of left atrial function by way of measuring myocardial deformation. Studies have shown that myocardial strain based on 2D speckle-tracking echocardiography reliably assesses systolic function and predicts outcomes independent of LVEF. To date, there has never been a prospective systematic assessment of left atrial strain in patients with HFrEF/AF and HFrEF/sinus rhythm (SR). This study aimed to assess echocardiographic parameters including left atrial strain using 2D-STE in patients with HFrEF/AF and HFrEF/SR.

Methods: This study was conducted in the Division of Cardiology at Charlotte Maxeke Academic Hospital in Johannesburg. We recruited 150 patients with heart failure with reduced ejection fraction. Baseline clinical characteristics were recorded and all participants underwent comprehensive echocardiography. Left atrial strain was measured using 2D-STE. These values were compared between patients with SR and AF

Results: Patients with HFrEF/AF had a significantly greater left atrial volume (ml) (83.9 [64-99.9]) than those with HFrEF/SR (61.53 ± 25.46) (p=0.038). Left atrial strain reservoir function (%) was significantly lower in patients with HFrEF/AF (29.00 ± 13.60) compared to those with HFrEF/SR (41.56 ± 15.46) (p=0.0004).

Conclusion: Atrial fibrillation is a marker of disease severity in HFrEF. Patients with HFrEF/AF had a more deformed left atrium morphologically and poor Tissue doppler function. On strain imaging, HFrEF/AF patients had poor left atrial reservoir function.

Submission ID: 919

BIVENTRICULAR HYPERTROPHIC CARDIOMYOPATHY IN A 26-YEAR-OLD NIGERIAN LADY WITH NOONAN'S SYNDROME: A CASE REPORT

Authors:

Olanike A Orimolade, Akinyemi Aje, Okechukwu S Ogah, Adewole Adebiji

Cardiology Unit, Department of Medicine. University College Hospital Ibadan, Nigeria

English Abstract:

Introduction: Cardiac disorders are found in about a half of cases of Noonan's syndromes, two diseases. The common congenital heart diseases in Noonan's syndrome are pulmonary valvular stenosis (60%), interatrial septal defect (25%) and obstructive or non obstructive hypertrophic cardiomyopathy (17%). Biventricular hypertrophic cardiomyopathy is very rare in these conditions.

We report a case of biventricular hypertrophic cardiomyopathy in a 26-year-old Nigerian female with this condition.

Methods: This is a descriptive case report.

Results: The patient presented with dyspnoea on exertion which started at the age of 7-years and has progressively worsened. There is associated precordial chest pain and palpitation.

Clinical examination revealed a young woman, who is small for her age. Had some dysmorphic features such as webbed neck, low set ears, low posterior hair line, crowded teeth, high arched palate, small and asymmetric chin and high carrying angle at the elbow.

The pulses were synchronous and there was no radio-radial or radio-femoral delay and her blood pressures were within normal limits. Cardiac auscultation was unremarkable,

The 12-lead ECG showed biventricular hypertrophy with strain pattern. The echocardiogram showed features in keeping with biventricular hypertrophic cardiomyopathy. Sample has been taken for cytogenetics for her genotype.

Conclusions: Bilateral HCM is rare in this genetic condition. Patients with typical dysmorphia should have full cardiac evaluation to look for these anomalies.

Keyword: Turner's syndrome, Noonan's syndrome, Dysmorphia, Hypertrophic cardiomyopathy.

Submission ID: 923

A TRAINING MODEL FOR A SUSTAINABLE CARDIOVASCULAR DISEASES RESEARCH IN TANZANIA AND BEYOND: LEVERAGING FROM THE EAST AFRICAN CENTRE OF EXCELLENCE IN CARDIOVASCULAR SCIENCES PROJECT

Authors:

Pilly Chillo, Fredrick Mashili, Gideon Kwesigabo, Paschal Ruggajo, Appolinary Kamuhabwa

MUHAS, Tanzania

English Abstract:

Background: The limited cardiovascular diseases (CVD) research output from Tanzania and other sub-Saharan African (SSA) countries hinders the establishment of locally informed CVDs management and policy changes. Shortage of skilled researchers is among the bottlenecks for this disparity.

Methods: Since December 2014, Muhimbili University of Health and Allied Sciences (MUHAS) has been implementing Phase I of the East African Centre of Excellence in Cardiovascular Sciences (EACoECVS) project, which aimed to set the stage for a fully-fledged CVD centre of excellence for East Africa. The centre is one of the

5 East African (EA) Centres of Excellence for Skills and Tertiary Education in Biomedical Sciences, funded by the EA member states through a soft loan from the African Development Bank.

As part of the activities towards the establishment of the centre, we developed a training plan for existing and future faculty for the centre. In this training plan, we partnered with World Class Institutions in Africa, Europe and India for the initial training of faculty for the centre, using the Training of the Trainers (ToT) model. To expand capacity in CVD research, we developed a CVD research training model where young faculty from MUHAS obtain advanced research training through a collaborative PhD program with University Medical Centre Utrecht, in the Netherlands.

Results: At the end of Phase I of the project, 38 trainees obtained the ToT and 5 are on the PhD program. All PhD research is conducted in Tanzania. This group of initial trainees form a base for a continuous and sustainable CVD training and research, and are set to train the next generation of specialists in cardiovascular sciences in Tanzania and the EA region.

Conclusion: The establishment of the EACoECVS has offered a unique opportunity for setting strategies and coordinating CVDs training and research for Tanzania and the EA region. The centre will soon be open to receive trainees from EA and other regions, as we embark on the actual implementation of the objectives of the centre - training of highly skilled human resources in CV sciences as well as conducting CVD research in the region. Regional collaboration is highly needed.

Submission ID: 940

ON-PUMP VERSUS OFF-PUMP CORONARY BYPASS SURGERY: COMPARISON OF OUTCOMES FROM AN INAUGURAL EAST AFRICAN CARDIAC SURGERY CENTRE

Author:

Peter Ogutu
Aga Khan University Hospital, Kenya

English Abstract:

Background: While non-communicable diseases are increasing, with more patients requiring surgical treatment, cardiac surgery in sub-Saharan Africa remains a resource intensive option for most patients in the region. This study compares outcomes of off-pump and on-pump coronary artery bypass grafting (CABG) in a recently established cardiac surgery centre in Kenya.

Methods: In 2019 and in the first half of 2021, 10 and 8 patients underwent on-pump and off-pump CABG respectively. Use of left internal mammary (LIMA) grafting to the left anterior descending coronary artery (LAD), which has prognostic value, use of inotropes and blood products, length of ICU and hospital stay, 30-day mortality and morbidity were analyzed.

Results: The LIMA was anastomosed to the LAD in 87.5% and 60% in patients undergoing off-pump compared to on-pump CABG respectively. While average cardiopulmonary bypass (CPB) and cross-clamp time in the latter cohort was 193 and 100 min, patients in the former did not require either times during the procedure. All on-pump patients were weaned off CPB using Dopamine and Adrenaline infusions concurrently, while 2.2 packed red blood cells, 2 units of platelets and 1.7 fresh frozen plasma were administered. Cell-Saver blood was re-infused in all off pump patients, and no blood products required. Postoperative ventilation was 50.85 vs. 5.5, ICU stay 77.05 vs. 45.12, and time to chest drain removal was 115 vs. 30 hours, while hospital stay 15.8 vs. 6.13 days in the on-pump vs off-pump cohorts respectively. There were 3 patients with surgical site infections and 1 readmission in the former cohort, and 1 mortality in each.

Conclusion: Patients undergoing on-pump CABG required more inotropes and blood products intra-operatively, longer ICU and in hospital stays, with increased morbidity compared to those

undergoing off-pump CABG. This translates to lower resource utility, hence improved affordability and access in a low-income country. Higher use of LIMA graft to the LAD is expected to achieve superior prognostic outcomes in the off-pump cohort. Use of cell-saver minimizes blood products requirement significantly.

Submission ID: 944

INTRODUCING A MOBILE APPLICATION REGISTRY FOR CARDIAC SURGERY PROCEDURES IN KENYA

Authors:

Peter Ogutu, Andrew Duncan
Aga Khan University Hospital, Kenya

English Abstract:

Background: In recent years, the number of cardiac surgeries performed in Kenya seems to have increased in relation to the centers currently performing and offering surgical services. There continues to be great paucity of data in the sub-Saharan region. While data availability is crucial, there is no registry or database available in the region for cardiac surgery.

Methods: A mobile application registry is being developed and targeted to be ready for use and presented at the 15th PASCAR congress this year. The application will initially be piloted at the Aga Khan University Hospital in Nairobi, and will enter data of all cases performed institution since 2011. Participants at the congress will be invited to download and experience the application live. The long term objective is to run the application under the Kenya Cardiac Society following a successful trial and testing period of 3 months. All institutions performing cardiac surgery in the region will be encouraged to anonymously enter their surgical data into the app.

Results and Conclusion: Surgical data and an overview of cardiac surgery performed in Kenya and the region will be readily available, thus informing clinicians, governments and non-governmental organizations on the necessity of the procedures performed, quantity and outcomes. This will address a longstanding challenge of paucity of scientific and surgical data in the region.

Submission ID: 921

EMPOWERING HEART FAILURE SELF-CARE THROUGH THE USE OF A PATIENT-CENTERED MHEALTH APPLICATION

Authors:

Sahr Wali, Jeremy Schwartz, Joseph Cafazzo, Heather Ross, Ann R. Akiteng, Peter Lwabi, Martha Nabadda, Cinderella Ngonzi Muhangi, Rebecca Gillman, Enock Musoke Kibalizi, Isaac Ssinabulya
University of Toronto, Canada

English Abstract:

In sub-Saharan Africa (SSA), heart failure (HF) is responsible for one of the highest premature mortality rates. Self-care is instrumental in HF management, as it can lead to improved clinical outcomes and quality of life. However, self-care for HF remains underutilized globally, with the greatest performance gap in SSA. Given the ubiquity of mobile phones and the scarcity of clinical resources in SSA, mobile health (mHealth) provides a promising platform to offer self-care tools such as education, lifestyle reminders, and decision support.

We adapted a smartphone-based mHealth application for self-care, developed in Canada, to the Ugandan setting. Grounded in the principles of user-centered design, Medly Uganda can be used on any mobile phone and is fully integrated into the Uganda Ministry

of Health's (MOH) FamilyConnect platform. Patients report HF symptoms and receive tailored, automated self-care advice coupled with direct communication from a provider for symptom reports that exceed a defined threshold. To evaluate its implementation and clinical effectiveness, we conducted a 6-month prospective cohort study at the Uganda Heart Institute (UHI). We used mixed methods to collect implementation and outcome related data. Clinical measurements were collected at Baseline, Month 3, and Month 6 and included the Self-Care in Heart Failure Index, EQ-5D, Six-Minute Walk Test, transthoracic echocardiograms, and medication history and adherence questions. System utilization data, coupled with qualitative interviews, were used to assess the feasibility, acceptability, and adoption of the program.

A total of 72 patients (male: n=39, mean age:53) at UHI were recruited. Interim quantitative data demonstrate a reduction in patient-reported symptoms (93% at baseline to 54% at 3 months) and unscheduled acute visits. Interim qualitative data indicate a reduced need for follow-up calls to promote self-care, as patients have felt the program provided a safety net that was previously unavailable. Data analysis for all clinical effectiveness and implementation outcomes is currently ongoing and will be completed by October 2021.

These interim data suggest that Medly Uganda improves self-care for HF through an mHealth platform inclusive of symptom reporting, feedback, and remote patient support. With the integration into an MOH-endorsed platform and the continued strengthening of local capacity, this will help ensure the program's scalability and sustainability.

Submission ID: 769

ECHINOCOCCOSIS OF THE RIGHT VENTRICLE: CASE REPORT

Authors:

Noel Maschell MAHOUNGOU-MACKONIA, Adam Fadoul, harouna seydou, Rachida Habbal

Chu ibn rochd, Maroc

English Abstract:

Introduction: Echinococcosis is a parasitosis that is endemic in many parts of the world. Cardiac involvement is rare at (\pm 3%) or 0.5-2% of all cardiac involvement let alone right chamber involvement.

Case report: We have reported a case of a 15 year old girl with echinococcosis of the right ventricle in the interventricular septum. The diagnosis was made in the presence of palpitations, an electrocardiogram showing sinus tachycardia with a right bundle branch block, a hydatid cyst demonstrated by transthoracic echography and cardiac CT scan with confirmation by serology. Management was by resection of the cyst with administration of albendazol 400mg/dr for 1 month and then every 15 days for 6 months with a favourable evolution.

Discussion and Conclusion: Morocco is an endemic area for echinococcus granulosus, which occurs in young people and is predominantly female. There is no characteristic clinical picture of the hydatid cyst of the heart and the clinical symptomatology is variable, depending on the stage of development of the cyst. The diagnosis is made on the basis of a number of arguments, with serological confirmation or, even more so, immunoblot, looking for specific antibodies. Management is done without delay by surgical method: cystectomy associated with aspiration of the liquid remains the most used method in 69% of cases followed by the careful padding technique in 62.5% and perikystectomy in 31%. In inoperable forms or as a complement to surgery if there is a risk of insemination, the WHO recommends albendazole at a dose of 10 to 15 mg/kg/day in courses of one month then spaced 15 days apart, for 6 months.

Submission ID: 760

IMPACT OF HYPERTENSION DURATION ON CORONARY ATHEROMA BURDEN IN PATIENTS WITH LOW TO INTERMEDIATE PRETEST PROBABILITY FOR CORONARY ARTERY DISEASE: EVALUATION BY CORONARY CT ANGIOGRAPHY

Author:

Mohammed Elfaramawy

Egypt

English Abstract:

Background: Hypertension duration has been tested as a predictor for coronary atherosclerosis in patients without known coronary artery disease (CAD) by non-invasive modality which is coronary computed tomography angiography (CCTA)

Aim: We investigated the association between hypertension duration and the extent and severity of CAD using CCTA in patients presenting by chest pain with low to intermediate pretest probability (PTP).

Methods and results: We analysed 90 patients with low to intermediate PTP who underwent CCTA. Patients were divided into three groups according to the duration of hypertension: ,5 years, 5 – 10 years, and \geq 10 years. For these patients, we compared the prevalence, extent, and severity of CAD, including coronary artery calcium score (CACs), atheroma burden obstructive score (ABOS) - which is the number of plaques with > 50% stenosis in the entire coronary tree- , segment involvement score (SIS) -which is the total number of coronary artery segments exhibiting plaque irrespective of the degree of luminal stenosis within each segment (minimum = 0; maximum = 16)- , and segment stenosis score (SSS) -which is a measure of overall coronary artery plaque extent with grading from 0 to 3 to each coronary segment-.

Patients with longer duration of hypertension possessed higher rates of obstructive CAD and greater degree of CACs (P=0.040), ABOS (P=0.039), SIS (P=0.028), and SSS (P=0.043).

Conclusion: In patients with low to intermediate PTP, longer hypertension duration is associated with a higher prevalence, extent, and severity of CAD. HTN duration of 8.5 yrs can be a predictor of obstructive coronary atherosclerosis in these groups of patients.

Keywords: hypertension † coronary artery disease † coronary CT angiography

Submission ID: 765

THE PREVALENCE OF STROKE IN PATIENTS WITH MITRAL STENOSIS AT DR GEORGE MUKHARI ACADEMIC HOSPITAL

Author:

Nxusele Sisoka

Durban University of Technology, South Africa

English Abstract:

Background: Valvular stenosis is noted as one of the main cardiovascular complications that results to high morbidity and mortality rates. In the last 5 decades a decline in numbers of cases of rheumatic fever (RF) has been noted in the developed nations due to their improved healthcare delivery system; and conversely high in developing countries, particularly the Sub-Saharan African inhabitant, due to lack of good infrastructure, adequate disease management strategies and resources like penicillin. Mitral stenosis (MS) that is a common sequelae of RHD can lead to increased LA pressures thus leading to LA remodeling and accelerate the progression of AF, which predisposes individuals to thromboembolic events such as stroke.

Aim: To determine prevalence of stroke in patients with MS at DGMHAH.

Methodology: This was a cross-sectional study of all patients with isolated MS managed at our cardiology clinic at Dr George Mukhari Academic Hospital (DGMAH), in Gauteng region to determine how many of those patients presented with stroke. 40 files (within a 2 year period) of patients within the inclusion criteria were analyzed using the R statistical computing software of the R Core Team with the assistance of the statistician. The descriptive and inferential statistics both numerical and categorical variables and inferential non- regression based analysis.

Results: The data showed that 55% of patients had rheumatic fever history (RF), 38.9% were unemployed or from with low socioeconomic status, and a female predominance. The most affected age group with MS was that of young adults between ages 25-34 years. Out of all 45% (18n) of patients who had stroke 55.6% had AF, 27.8% had paroxysmal AF and only 16.7% were in sinus rhythm (with a history of palpitations which may suggest an underlying arrhythmia like paroxysmal AF, atrial flutter, and so on). The data also showed high association of AF with low ejection fraction (EF). The thrombus formation was associated with LA dilatation, dilated mitral valve (MV) annulus, reduced orifice area and opening amplitude.

Conclusion: The stroke incident on MS patients was 45%. Factors such as LA enlargement, reduced MVA and opening amplitude, MV annulus dilatation, AF with low EF, RHD history contribute greatly to this prevalence. Moreover, results of a resting ECG were inadequate in assessing arrhythmias, hence why Holter ECGs and Loop recorder implantations need to be considered as mandatory procedures for such patients.

Submission ID: 771

PREVALENCE OF MAJOR ELECTROCARDIOGRAPHIC ABNORMALITIES ACCORDING TO THE MINNESOTA CODING SYSTEM IN ANGOLANS

Authors:

Mauer A. A. Gonçalves, João Mário Pedro, Carina Silva, Miguel Brito, Pedro Magalhães

Faculty of Medicine from University Agostinho Neto, Luanda, Angola

English Abstract:

Background: The importance of identifying electrocardiographic changes and their relationship to cardiovascular disease has been extensively studied in the Caucasian population and in African Americans. The presence of abnormalities in the resting electrocardiogram is associated as an independent factor for the onset of coronary artery disease and is related to the increased mortality rate and risk for cardiovascular disease. Despite this, there is no information available in the medical literature of electrocardiographic abnormality parameters as well as its relationship with cardiovascular risk factors in Angolans.

Objectives: The aim of this study was to evaluate the major electrocardiographic abnormalities according to the Minnesota coding system in Angolans, stratified by gender, age and cardiovascular risk factors.

Methods: This study analyzed data from a population sample drawn from the municipality of Dande, in the northern Angolan province of Bengo. This was a cross-sectional community-based survey conducted between September 2013 and March 2014 in an area covered by the Dande Health and Demographic Surveillance System. A representative random sample stratified by sex and

age was selected, aged between 15 and 84 years. After removing individuals accordingly inclusion and exclusion criteria it was achieved a total of 2 379 black individuals. A 12-lead ECG and a rhythm strip were recorded for all participants and analysed and processed by the University of Glasgow software and encoded by the Minnesota Code. The data were analyzed according to gender and age stratification.

Results: Participants had an average age of 35,0±14,5 years old and 63% were female, 4,58% had major electrocardiographic abnormalities. The most common major ECG abnormalities were Left ventricular hypertrophy with major ST-T abnormalities and major Q-wave abnormalities. Hypertension, diabetes mellitus, hypercholesterolemia, alcohol consumption and smoking, were significantly associated with major electrocardiographic abnormalities.

Conclusions: This is the first study in Angola and the largest study to date on ECG abnormalities in black individuals residing in Africa. In this study, the prevalence of major electrocardiographic abnormalities was higher among women, the elderly and among people with more cardiovascular risk factors. The electrocardiographic abnormalities had significant associations with the main cardiovascular risk factors.

Submission ID: 772

TAKOTSUBO CAUSED BY PULMONARY EMBOLISM

Authors:

Noel Maschell MAHOUNGOU-MACKONIA, Esther Ovaga, Rachida habbal

chu ibn Rochd, Maroc

English Abstract:

Introduction: Takotsubo is a transient acute coronary myocardial infarction due to a catecholergic discharge accounting for 1 in 36000 adults after intense physical or psychological stress. Most often found in women over 50 years of age. Its association with pulmonary embolism is very rare.

Case report: We report the case of a 76-year-old female patient with poorly monitored chronic obstructive pulmonary disease. She presented to the emergency department with acute respiratory distress and lipothymia. Clinical examination revealed hypoxia with SaPO₂ at 86% in free air, tachycardia at 112 beats/min. The electrocardiogram showed S1Q3, a complete right bundle branch block, a positive AVR with a tachycardia of 125 beats/min. A thoracic angioscan was performed, showing bilateral segmental and sub-segmental pulmonary emboli. Ultrasensitive troponins were highly elevated at 1530 ng/l with transthoracic echocardiography showing signs of acute pulmonary heart disease associated with apical ballooning, very akinetic with hyperkinesia of the bases, LVEF 26% suggestive of takotsubo confirmed by coronary angiography coupled with ventriculography giving an amphora-like appearance with a healthy coronary. The patient was initially admitted to the intensive care unit and then to the hospital for an intermediate-high risk pulmonary embolism complicated by takotsubo. The etiology of the pulmonary embolism was normal. She received apixaban, Ramipril, bisoprolol, aspirin and spironolactone. The evolution was marked by a recovery of the bi ventricular function in 1 month.

Discussion: We consider that in our case, takotsubo was secondary to respiratory failure acutised by pulmonary embolism, in this 76-year-old woman with poorly followed chronic obstructive pulmonary disease.

Submission ID: 773

MALIGNANT ARTERIAL HYPERTENSION REVEALING FOCAL SEGMENTAL HYALINOSIS SEGMENTAL HYALINOSIS

Authors:

Noel Maschell MAHOUNGOU-MACKONIA, Amal Maslouhi, Tania Elongo, Rachida Habbal
chu ibn Rochd, Maroc

English Abstract:

Introduction: Malignant arterial hypertension (MAH) is a hypertensive emergency associated with grade III or IV retinopathy. Late-onset focal segmental hyalinosis (FSH) is one of its rare entities, with an incidence of 7 per million, responsible for 15-20% of adult nephrotic syndromes.

Case report: We report a case of segmental and focal hyalinosis in a 27 year old patient with no previous history of malignant hypertension who presented with neurosensory signs and ocular redness. The clinical examination revealed a hypertensive peak of 240/150 mm Hg with myocardial hypertrophy confirmed by electrocardiogram and transthoracic echography. A fundus examination completed by an optical coherence tomography revealed a KIRKENDAL stage III retinopathy associated with an occlusion of a branch of the central retinal vein. An impure nephrotic syndrome associated with renal failure was objectified. A biopsy of a fragment of renal parenchyma completed by an anatomopathology assessment was carried out in favour of a FSH with chronic tubulointerstitial damage. The patient was treated urgently with nicardipine 2mg/hr by electric syringe within 24 hours, followed by a triad of antihypertensive drugs consisting of amlodipine, indapamide and Ramipril at full dose combined with prednisone 60mg/day for 4 months with a 6 month taper. The evolution was marked by a normalization of the renal function, disappearance of the proteinuria and even a normalization of his eye fundus after one year.

Discussion: We consider that this patient's nephrotic syndrome was associated with the development of FSH secondary to malignant hypertension.

Submission ID: 775

THE PERFORMANCE OF QSOFA AS A PROGNOSTIC TOOL FOR EARLY PREDICTION OF HIGH RISK INFECTIVE ENDOCARDITIS

Authors:

Noel Maschell MAHOUNGOU-MACKONIA, Anas Maaroufi, Nassour Brahim, Rachida Habbal
chu ibn Rochd, Maroc

English Abstract:

Introduction: According to the VIRSTA study, about sixty percent of infectious endocarditis (IE) are complicated by sepsis. The qSOFA score is used to identify patients with a high risk of adverse outcome following their infection. Thus, our study aims to evaluate the predictive performance of qSOFA as a prognostic tool to identify those with IE at high risk for early poor outcome.

Methods: This is a 4-years monocentric retrospective cohort study, included patients admitted for IE between 2014 and 2018 according DUKE criteria, with initiation of anti-bacterial therapy. The qsofa score was calculated for each patient and a score of ≥ 2 points was used as the prognostic cutoff value in predicting clinical deterioration and death within 30 days.

Results: Overall, on a total of 115 patients, demographics showed

the mean age of 46 years, sex-ratio 1, 5. Twenty five percent had qsofa ≥ 2 and were considered the high qSofa group. A higher proportion of low qSOFA patients (10% vs 2%, $p= 0.023$) had no pre-existing comorbid condition. The high qSOFA group were more likely to be infected with Staphylococcus aureus. The high qSOFA group had higher rate of persistently clinical and biologic infectious syndrome despite receipt of ≥ 4 days of effective therapy (34% vs 20%, $p= 0.0039$), higher rate of 30-day mortality (19% vs 3%, $p < 0.0001$), and a longer length of hospitalization compared to the low qSOFA group ($p= 0.001$).

Discussion: Our findings are consistent with those from prior studies involving other infectious syndrome. The qSOFA score could be used as prognostic factor in IE and patients identified with high score should receive aggressive management in particular in Staphylococcus aureus etiology.

Submission ID: 761

HYPERTENSION MANAGEMENT IN PRIMARY HEALTH CARE CENTRES: BLOOD PRESSURE CONTROL AND CLASSES OF ANTIHYPERTENSIVE MEDICATION, KHARTOUM STATE, 2018

Author:

Maha AbdelGhaffar Magboul
Cardiology fellowship SMSB, Sudan

English Abstract:

Background: In Sudan, the delivery of care based on the Primary Health Care (PHC) level, which is the first contact with the health system. PHC is the level at which the modifiable risk factors for hypertension are addressed together with the treatment of known hypertensive patients.

Objective: To assess the management of hypertension in primary health care in Khartoum State, 2018.

Material and Methods: The study was a descriptive cross-section, health Centre's based that covered six PHC Centres in Khartoum State. The study interviewed all diagnosed Sudanese hypertensive patients more than 18 years of age who attended the selected PHC Centres. The research team collected data using a structured questionnaire and measuring the blood pressure with a mercury sphygmomanometer. The study variables were demographic characteristics and disease features as independent variables and hypertension control as the dependent variable. The statistician analyzed the data using the statistical package for the Social Science version 21.0 and the Chi-square test to obtain the P. value to test the association between the addressed variables. The study group adopt ethical considerations throughout the study.

Results: Of the 384 hypertensive patients interviewed in this study, 57% were females and 47.7% were more than 60 years of age. A large per cent of the subjects were either primary educated or illiterate (32.6%, 19.8% respectively). More than half of the hypertensive patients (52.1%) were uncontrolled and 52.9% had no comorbidities. Diabetes was predominant (39.3%) among those who had comorbidities. The majority of the patients (92.7%) were adherent to the medication. Of the studied patients, 58.1% used mono-therapy. The most controlled patients were the elderly and middle-aged patients and the highly educated patients ($P= 0.005$). Patients with a duration less than five years were more likely to be controlled ($P= 0.036$). The majority of the patients who used combined treatment were found to be controlled.

Conclusion: This study concluded that the high prevalence of uncontrolled hypertensive patients attending PHC was mainly attributed to the use of monotherapy, presence of comorbidities and medication non-adherence. On the other hand combination therapy and elderly have good control.

Submission ID: 790

INFERIOR INFARCTION COMPLICATED BY A LARGE THROMBOSED PSEUDOANEURYSM: A CASE REPORT

Author:

BRAHIM NASSOUR AWARE
CHU IBN ROCHD CASABLANCA

English Abstract:

INTRODUCTION: False aneurysms of the left ventricle are rare; they form when a myocardial rupture is contained by pericardial adhesions; the most common etiology of the false aneurysm remains transmural myocardial infarction especially in the posterior or inferior territory.

OBSERVATION: We report a rare case of an 82-year-old patient with dyslipidemia, chronic smoking, and hypertension, admitted to the department for chest pain evolving for 15 days. The clinical examination was unremarkable. The electrocardiogram showed persistent inferior and lateral elevation and necrosis in the same areas. Trans thoracic echocardiography showed a large false aneurysm on the lateral wall measuring 38x30 mm with a hyperechoic formation making us suspect an apical thrombus lined by a thrombus. Coronary angiography showed chronic circumflex occlusion with a rudimentary right coronary artery with an indication for medical treatment. The patient received anti-coagulation plus treatment of ischaemic heart disease with regular monitoring at the consultation and an indication for aneurysmectomy plus removal of a thrombus is indicated.

COMMENTS AND CONCLUSION: The pseudo aneurysmal pathology of the LV is in the majority of the cases of ischemic origin. It is a rare complication, its prevalence is of 0,05 % occurring most often following a posterior or inferior MI, as the case of our patient the false aneurysm is the consequence of the post MI remodelling deleterious reactionary process which begins in the hours which follow a transmural MI and modifies the geometry of the ventricle and its parietal thickness.

Submission ID: 763

ANTICOAGULATION MANAGEMENT AND PREDICTIVE FACTORS IN PATIENTS WITH ATRIAL FIBRILLATION ON WARFARIN AT TERTIARY CARE HOSPITAL IN ETHIOPIA

Authors:

Nuredin Shiferaw Yimer, Tamrat Assefa Tadesse, S, Shemsu Umer. Hussien
College of Health Sciences, Addis Ababa University, Ethiopia

English Abstract:

Purpose: To assess the anticoagulation management and predictive factors in atrial fibrillation patients on warfarin therapy at Saint Paul's Hospital Millennium Medical College (SPHMMC), Addis Ababa, Ethiopia.

Materials and Method: A retrospective cross-sectional study was employed in the current study. We reviewed 300 patient medical records among patients with atrial fibrillation (AF) who have taken warfarin during two years follow up. We calculated the time in therapeutic range (TTR) using Rosendaal's method, and INR frequency, drug interaction with warfarin, and warfarin dose adjustment practice were also assessed. Data were analyzed using SPSS software version 25. Univariate and multivariate analyses were employed to determine factors affecting Time in therapeutic range(TTR) and bleeding events. P-value ≤ 0.05 was considered statistically significant.

Results: Among the study participants, 65.3% were females. The mean age of the patients was 56.4 ± 16.6 years with 20-90 years range. On average, patients were on warfarin for 332.81 (63-691) days. The mean percentage TTR was 42.03 ± 18.75 SD. Only 38 (12.67%) patients achieved TTR of above 65%. None of the patients had all tests within the target therapeutic ranges. One hundred thirty-two patients (44%) were prescribed 176 drugs that interact with warfarin. Taking 1 or 2 drugs along with warfarin was found to be more beneficial in achieving good TTR compared to taking more than two medications (AOR=0.194; CI- 0.052-0.717, P=0.014). Heart failure as comorbidity had 2.467 times the risk of having poor therapeutic outcomes (AOR =2.467; CI- 1.014-6.005, P=0.047). Male study participants were 2.53 times at risk of having bleeding events than females (CI-1.261-5.079; p=0.009). Absence of diabetes mellitus as a comorbid condition and not taking aspirin had 80.4% and 90.1% odds of not developing bleeding events than vice versa (AOR =0.196; C.I.= 0.060-0.638; p=0.007 and AOR= 0.099; C.I. =0.024-0.416; p=0.02), respectively.

Conclusion: The time spent in the therapeutic range was minimal. Besides, warfarin drug interactions (WDIs) were prevalent in this study. Moreover, patient age, number of co-prescribed medications, and having heart failure were associated with poor TTR. Bleeding events were high and affected by male sex, having diabetes mellitus comorbidity, and using aspirin.

Key Words: Atrial fibrillation, warfarin, time in the therapeutic range, International normalized ratio, Ethiopia

Submission ID: 767

PRIMARY PERCUTANEOUS CORONARY INTERVENTION IN OCTAGERIAN AND NONAGERIAN

Authors:

OMAR AIT-MOKHTAR, Adel Azaza, Maamar KARA, Ali Bedjaoui, Abdelmalek Azzouz, Mohamed Amine Salem, Arezki Sik, Salim Benkhedda

Mustapha Hospital university, Algeria

English Abstract:

Introduction: actually elderly patients are always admitted to hospital for acute coronary syndrome with ST segment elevation myocardial infarction (STEMI) and primary percutaneous coronary intervention (PPCI) is also done in this setting. No specific recommendations available for this population of octogenarians and nonagenarians because they are excluded from randomized trials. For these reasons it is important to assess their clinical and prognostic characteristics.

Aims: to assess clinical characteristics and prognosis of elderly STEMI patients treated by PPCI.

Methods and results: from February 2016 to December 2019, 1057 STEMI patients treated by PPCI were prospectively included. We analyzed data from 884 patients and divided them to 2 groups, the first one, patients were more than 80 years (G1) 65(7.3%) patients, and the second one below 80 years old(G2) 819 patients.

Clinical characteristics were different between elderly (G1) and younger(G2); diabetes 33(50,7%) vs 303(37%) p=0.02, mal sex 39(60%) vs 670(81,1%) p<0.001, hypertension 45(68,1%) vs 344(42%) p<0.001, and tobacco use 8(12,3%) vs 370(45,1%) p<0.001. Atypical presentation was more frequent in elderly 19(29,7%) vs 148(18,1%) p=0.02. No difference regarding delay to reperfusion. ST resolution was less in G1, 26(40%) vs 529(64,6%) p<0.001. In hospital mortality was more frequent in elderly, but the difference was not statistically different 4(6,1%) vs 15(1,8%) p=0.23.

Conclusion: STEMI elderly patients treated by PPCI present more comorbidities, more atypical presentation and less ST resolution resolution. However in hospital mortality is acceptable.

Submission ID: 815

CLINICAL AND DEMOGRAPHIC PROFILE OF HOSPITALIZED ACUTE DECOMPENSATED HEART FAILURE AT THE NAIROBI WEST HOSPITAL

Author:

Dr Rachel wagaki
Nairobi west hospital, Kenya

English Abstract:

Acute decompensated heart failure (ADHF) is attended by significant morbidity and mortality and usually requires inpatient care. We present a retrospective review of case records of hospitalized ADHF between the dates of 1st June 2020 and 21st July 2021.

METHODS: Patient files admitted with ADHF over the study period were perused, Comprehensive and detailed clinical and sociodemographic obtained and analyzed.

FINDINGS: 50 patient case files were interrogated, 28 were male while 22 were female. Hypertension as a comorbidity was present in 66%, followed by dyslipidemia (24%) and diabetes (20%). Chronic pulmonary diseases, chronic kidney disease, HIV and Alcoholism were present in a minority of patients. Dyspnea was the predominant symptom (94%) followed by edema (76%). Chest pain and syncope were infrequent complaints in this population.

56% of the patients required Intensive care with 12% requiring Cardio-respiratory support.

A minority of the patients (12%) underwent coronary imaging, 96% of the patients received diuretics, 66% received B-blockers and half were on statins. A small proportion received vasodilators.

Hospital stay was over 5 days for 70%. 4 (8%) Of these patients died in the course of the index hospital stay

CONCLUSION: Acutely decompensated heart failure in our setup is associated with hypertension, frequently results in prolonged hospitalization, occasionally requires cardiorespiratory support and has a significant mortality.

Submission ID: 782

METABOLIC DYSREGULATION IN RHEUMATIC HEART DISEASE AND DEGENERATIVE VALVULAR DISEASE

Authors:

Daniel W. Mutithu, Olukayode O. Aremu, Evelyn N. Lumngwena, Lubbe Wiesner, Sebastian Skatulla, Richard Naidoo, Ntobeko A. B. Ntusi

Cape Heart Institute, Department of Medicine, Faculty of Health Sciences, University of Cape Town, Cape Town, Cape Town, South Africa

English Abstract:

Introduction: Valvular heart disease (VHD) leads to the damage of one or all the cardiac valves. VHD may be secondary to degenerative valve disease (DVD), rheumatic heart disease (RHD), congenital valve disorders or mechanical cardiac injury. Advances in high-throughput techniques such as metabolomics have enabled profiling of metabolic profiles in complex biological systems. Discovery metabolomics studies may yield novel diagnostic biomarkers for early diagnosis or therapeutic targets to supplement management of VHD. We aimed to evaluate the metabolomic profile of serum/plasma of advanced VHD patients undergoing valve replacement at Groote Schuur Hospital.

Methods: Blood samples were collected from RHD and CDVD patients and matched healthy controls without VHD. Plasma/serum was isolated, and metabolites extracted for Quadrupole Time of Flight Liquid Chromatography Mass Spectrometry (Q-TOF-LCMS)/MS analysis with an AB Sciex X500R instrument. MS data was

processed for feature extraction using MSIAL 4.70. Identification of important m/z features was conducted using MetaboAnalyst 5.0; annotation of important m/z features was conducted using SIRIUS 4.0 and CEU MassMediator 3.0. Significant metabolites were mapped onto KEGG database for functional analysis. The statistical analysis was conducted in R 4.1.0 environment.

Results: Age- and sex-matched RHD (n=23), DVD (n=17) patients, and controls (n=27) were included in the study. Eighteen metabolites were significantly dysregulated in VHD patients (FC>2, adj.p <0.1). Upon pathway mapping, glycerophospholipid metabolism (adj.p <0.001), valine, leucine and isoleucine degradation (adj.p = 0.02), arginine biosynthesis (adj.p = 0.08) and arachidonic acid metabolism (adj.p = 0.5) pathways were dysregulated. The pathways are involved in inflammation processes, storage of fatty acids, amino acid metabolism, and protein biosynthesis. Further, gene-metabolite interaction showed L-arginine, L-isoleucine, and tiglyl-CoA to be the most important metabolites. Based on gene ontology mapping, ACADSB, IARS, IL-4I1, RARS, GATM were genes found to be highly associated with the dysregulated metabolites.

Conclusion: Metabolism of phospholipid and branched chain amino acids were the most affected in RHD and DVD patients undergoing valve replacement. Our results suggest dysregulation of metabolic and catabolic pathways in VHD due to shifts in energy demands of the failing heart in patients with advanced valve pathology.

Submission ID: 788

THE ROLE OF THE AORTIC DE-BRANCHING PROCEDURE AS THE INITIAL STEP FOR REPAIR OF TRAUMATIC INJURY TO THE BRACHIOCEPHALIC TRUNK

Authors:

Sidima Sonqishe, Kyle Grebe
Livingstone Tertiary Hospital, South Africa

English Abstract:

Background: Traumatic injury to the brachiocephalic trunk is not easily amenable to endovascular repair and usually requires an open surgical approach with possible cardiopulmonary bypass support and deep hypothermic circulatory arrest for the control of bleeding and repair of the injury. We describe the role of the aortic de-branching procedure for the management of these patients.

Objectives: Review of the clinical and intraoperative procedure to manage brachiocephalic injury with the aortic de-branching procedure.

Methods: We described the clinical presentation, radiologic findings and surgical management of a patient with traumatic brachiocephalic trunk injury and the use of the aortic de-branching procedure for the management of this patient precluding the need for cardiopulmonary bypass or deep hypothermic circulatory arrest.

Results: Case 1: A 23 year old male patient stabbed in zone I of the right neck presented hemodynamically stable with a widened mediastinum and a false aneurysm of the brachiocephalic artery noted on CT scan. Via median sternotomy with peripheral cardiopulmonary bypass cannulation without going on bypass the ascending aorta and distal brachiocephalic trunk were dissected free. An 8mm gel weave tube graft was then anastomosed proximally to the ascending aorta with a side-biting clamp and distally to the inferior aspect of the bifurcation of the brachiocephalic trunk. The graft was then allowed to flow. The distal brachiocephalic trunk was clamped for distal control and a proximal clamp onto the base of the origin of the trunk for proximal control. The injured trunk was then resected and proximal and distal defects repaired with 5.0 prolene. This approach may preclude the need for cardiopulmonary bypass support and deep hypothermic circulatory arrest.

Conclusion: Traumatic brachiocephalic trunk injury can be safely managed with aortic de-branching as the initial step before control and repair of the actual brachiocephalic injury.

Submission ID: 779

ADHERENCE TO SELF-CARE RECOMMENDATIONS AND ITS ASSOCIATED FACTORS AMONG ADULT HEART FAILURE PATIENTS IN PUBLIC HOSPITAL, ADDIS ABABA, ETHIOPIA

Author:

aemiro baymot
Ethiopia

English Abstract:

Background: Heart failure (HF) nowadays related to morbidity and mortality rate is increasing globally. In sub-Saharan African young populations are more affected by heart failure disease than the western countries. HF patient's self-care recommendations such as taking medications, doing regular exercise, taking a low sodium diet, and monitoring their weight are essential to control HF signs, symptoms, and aggravation. Good adherence to those self-care recommendations decreases death and hospitalization. However, little is known about HF patients' adherence to self-care recommendations and its associated factors in Ethiopia. Objective: The aim was to assess heart failure patients' adherence to self-care recommendations and its associated factors in a public hospital, Addis Ababa, Ethiopia, 2021 G.C.

Method: Institutional based cross-sectional study was conducted in a public hospital in Addis Ababa. Study participants were selected through a systematic random sampling method. A total of 294 heart failure patients were included in the study. Data was collected by interviewer-administered structured questionnaires. The data were entered into a computer using Epi-info version 7.1 and then SPSS Version 25 statistical software for further analysis. Logistic regression analysis was used to check the associations of different factors and the patient adherence level. The findings were described using the frequency distribution tables and graphs.

Result: The study included 294 respondents. Adherence to self-care recommendations was 96(32.7%. 95% CI%: 27.2-38.1). The mean age was 44.95±18.23. Adherence to self-care had associated with female gender (AOR: 4.66, 95% CI: 1.586-13.675), having high income with (AOR: 10.32, 95% CI: 2.003-53.132), with HTN, (AOR: 6.76, 95% CI: 1.799-25.371), with NYHA class III (AOR: 7.01, 95% CI: 2.180-22.572), with good self-efficacy (AOR: 7.63, 95% CI: 2.648-21.979), and lastly with good knowledge (AOR: 3.94, 95% CI: 1.563-9.955).

Conclusion and Recommendations: Overall adherence to self-care recommendations was very low. Being female, having high income, good self-efficacy, NYHA class III, HTN, HIV, and good level knowledge was positively associated with self-care adherence. Therefore, an educational session should focus on heart failure knowledge and self-efficacy. Self-care strategies shall target males and comorbid patients.

Submission ID: 794

USE OF CARDIAC CATHETERIZATION LABORATORY PATIENT'S SAFETY CHECKLIST AT JAKAYA KIKWETE CARDIAC INSTITUTE (JKCI): A RETROSPECTIVE STUDY

Authors:

CLEMENT KABAKAMA, ZAHRA D.KHAN, PETER KISENGE, PILLY CHILLO
DEPARTMENT OF INTERNAL MEDICINE, SCHOOL OF MEDICINE, MUHIMBILI UNIVERSITY OF HEALTH AND ALLIED SCIENCES, TANZANIA

English Abstract:

Background: Cardiac catheterisation involves inserting a thin hollow tube, known as a catheter, into the heart from a blood vessel in

the groin, arm or neck through the use of the radioactive contrast dye. Estimated that 17.7 million people died from Cardiovascular diseases (CVDs) an estimated of 1 million deaths were attributable to (CVDs) in Sub-Saharan Africa alone, which constituted 5.5% of all global CVD-related deaths and 11.3% of all deaths in Africa. 134 million adverse events occur each year in Hospitals in a developing countries contributing to 2.6million deaths annually due to unsafe care. Interventional cardiology has evolved dramatically over the past 30 years and invasive procedures have become the cornerstone for diagnosis and treatment of cardiovascular diseases. Cardiologists have developed skills and procedures to treat not only diseases of coronary arteries, but also a range of other conditions within the cardiac catheterization laboratory (CCL)

Methodology: Retrospective analysis for a period of six months patients' files. A questionnaire was developed and a retrospectively review of 421 consecutive inpatient's files for the CCL pre-procedure checklist forms from those files for the auditing. Points were allocated to the completed parameters and the overall score calculated and averaged. The target achievement for the completeness of filled up the CCL patient safety checklist forms for patients undergoing procedures at the CCL was 80% for a successfully filled form, while those checklists with less points (were averaged from a totally marked JKCI adapted pre-procedure checklist of 27 total parameter) and marked as "partially filled" and averaged, while those scored >80% were reported as "completely filled" checklist, whereas those forms not present in file were reported as "not filled". All collected data's were entered and analysed using SPSS version 20 software and percentage of entries calculated for each item respectively.

Results: Audit flow chart

Total of 450 patients underwent procedures in CCL for a period of about six months (06) their details were collected from the CCL registry book within from the catheter laboratory (cathlab) theatre. Among those registered in CCL books, found 421 patient's files as hard copy and 29 patients file's were missing. Among 421 file's, 331 patient's file had CCL pre-procedure forms attached to it, where 90 files had missing/no attached forms.

Submission ID: 795

PROGNOSTIC AND ADDED VALUE OF 2D MYOCARDIAL DEFORMATION AND CONVENTIONAL PARAMETERS FOR PROGNOSIS IN PATIENTS WITH CARDIAC AMYLOIDOSIS

Authors:

Valdirene Gonçalves, José Paulo Almeida, Flávio André Azul Freitas, Sofia Martinho, Cátia Ferreira, João Rosa, Henrique Vieira, Maria João Vidigal, Lino Gonçalves
Coimbra University Hospital; Girassol Clinic, Angola

English Abstract:

Background: The differentiated evaluation of functional and morphological parameters are crucial for the evaluation of the prognosis in patients with cardiac amyloidosis (CA). Several studies have investigated the relationship between deformational measures and clinical outcomes demonstrated significant associations with mortality among patients.

Methods: We retrospectively analyzed 52 patients referred between 2018 and 2019 to perform 99mTc-DPD Scintigraphy (DPD scan) due to a clinical suspicion of CA. We identified patients with a positive CA diagnosis by either DPD scan, a positive monoclonal component on serum immunofixation, urine immunofixation or serum free light chain assay or biopsy (n=31). Binary logistic regression was used to predict the outcome of death at 1 year (n=6) using quantifiable conventional morphological and functional echocardiographic parameters along with deformation (strain) indices, previously suggested to be associated with a worse prognosis on restrictive cardiomyopathies.

Results: The studied population was predominantly old (77 +/- 12 years) and male (54%). Echocardiographic features were typical of a

restrictive cardiomyopathy phenotype with dilated atria (mean LAVI, mL/m² = 54.66 +/- 25.989, mean RAVI, mL/m² 37.82 +/- 18.768) and thickened ventricular walls (IVSd, mm = 14.73 +/- 3.636, PWTd, mm = 12.08 +/- 3.101). Of the 31 patients with a diagnosis of amyloidosis, 18 had senile (ATTR wild type) amyloidosis, 8 primary (AL) amyloidosis and 5 had familial amyloid neuropathies. Our model shows that the echocardiography parameters tested, only a lower Left Ventricular End-Diastolic Diameter (LVEED) associates with worse prognosis [0.836 (0.724-0.966); p=0.015]. Other strain parameters, including Right and Left global longitudinal strain and atrial strain, and diastolic parameters, including E/E' and mitral DT time weren't statistically different between groups. Diagnosis group was also not predictor of prognosis.

Conclusions: Our small sample is due to the particularity of the sample as CA is a substantially underdiagnosed disease. Of the parameters evaluated low LVEED proved to be a parameter associated with poor prognosis in these patients. Other parameters including myocardial deformation cannot predict worse outcome. Further studies are needed to show the prognostic value of myocardial deformation and conventional parameters in CA.

Submission ID: 781

INTERVENTIONAL CARDIOLOGY

Author:

PREMANAND PONOTH
THE KAREN HOSPITAL, Kenya

English Abstract:

Back ground& Objective: Incidence of Aortic ailments are on the rise in Kenya. Open surgical repair has been the standard of care traditionally, until the aortic interventions have become more accessible. We present our series of 35 cases of endovascular interventions at Karen Hospital, Nairobi over a period of 44 months. All the patients were followed up at our clinic. This technique may be a suitable alternative to open repair, especially in a low volume centre and provide a higher success rate.

Materials & Methods: Our experience of the management of 35 cases of aortic interventions from October 2017 to June 2021 reported. Total of 35 cases were treated, of which 26 were male and 9 female. Age varied from 17-74 years. One of the female patient has rupture of the thoracic aneurysm and had Thoracic Endovascular Aneurysm Repair (TEVAR) on an emergency basis. All patients had Valiant Captivia stent for TEVAR patients, Endurant stents for the EVAR and iliac artery stenting patients, Valiant Captiva stents for coarctation patients (Medtronic, Kenya) respectively. All the stent sizes were as per the individual measured size. Of all the cases 14 were abdominal and 21 were thoracic. Of the abdominal intervention, Endo Vascular Aneurysm Repair (EVAR) was for 10 cases, Aortic dilatation for 1 (Pre-renal transplant patient), Common Iliac stenting for 2, and 1 External iliac stenting. For thoracic, TEVAR for 19 cases, Coarctation stenting for 2.

Results: The patient were followed up. There was 2 mortalities. This patient had acute rupture proximal to the stent site in the immediate post-operative period and another had delayed mortality after 2 months in another hospital due to septicaemia of the foot infection. Superficial groin infection were seen in two patients, which was treated with antibiotics. Two patients had EVAR for mycotic aneurysm of the abdominal aorta and is on ATT. One of the patient had severe groin wound infection leading to bleed from the groin site, and had vascular repair of the femoral artery in another hospital. All the patient did well and was discharged in 5 days, except for the female patient as an emergency, who was discharged on the 10th day.

Discussion: The first endovascular repair of an abdominal aortic aneurysm (EVAR) was performed by Dr. Juan Parodi in 1990 in Argentina. The first clinical experience with Trans femoral insertion of an endovascular bifurcated graft for repair of an abdominal aortic aneurysm was in 1994 by Dr Chuter.

Submission ID: 792

A CASE SERIES OF CARDIAC HYDATID DISEASE IN THE EASTERN CAPE PROVINCE OF SOUTH AFRICA

Authors:

Jithan Koshy, Gerhard Oosthuysen, Sidima Sonqishe, Kyle Grebe, Hamid Munir

Nelson Mandela University, South Africa

English Abstract:

Background: Cardiac hydatid disease is a rare presentation of Echinococcus granulosus infestation in humans. The presentation varies in literature from incidental finding on imaging to acute decompensation due to intracardiac rupture of the hydatid cyst.

Objectives: Review of the clinical and imaging characteristics of three cases of cardiac hydatid disease presenting to the cardiothoracic service in the Eastern Cape.

Methods: We described the clinical presentation, echocardiographic, radiologic findings and surgical management of these patients

Results: Case 1: 4 year old male patient presented to one of our peripheral hospitals with acute hemodynamic decompensation and neurologic deterioration with echocardiographic features of a left ventricular hydatid cyst. The patient was planned to be transferred to the cardiothoracic service on an emergent basis, however the patient acutely deteriorated with anaphylactic shock and demised in the care of the peripheral hospital.

Case 2: 22 year old female with Systemic lupus erythematosus presenting with an incidental finding on routine chest radiography of a pericardial opacity. Echocardiographic and CT scan features suggested a diagnosis of a pericardial cyst with adherence to the right ventricle. Through a median sternotomy the pericardium was opened and a hydatid cyst was identified in the right ventricular wall close to the atrioventricular groove. On cardiopulmonary bypass on a beating heart the hydatid cyst was excised and the cavity obliterated.

Case 3: 22 year old female presented with ventricular arrhythmias, with echocardiographic features of a cystic lesion in the left ventricular free wall. The patient had urgent surgical intervention on cardiopulmonary bypass with the heart arrested, the LV hydatid excised and the fibrous capsule obliterated in the same manner as the previous case.

Conclusion: Cardiac hydatid disease is of rare occurrence and the presentation varies depending on size, location and complications of the cyst. Rupture of a myocardial hydatid cyst has catastrophic consequences with anaphylactic shock and embolization whereas epicardial cysts may rupture and cause tamponade whereas those that impinge on the cardiac conduction pathways may cause arrhythmias.

Submission ID: 789

CHRONIC THROMBOEMBOLIC PULMONARY HYPERTENSION: THE MEDICAL PROBLEM WITH A SURGICAL SOLUTION

Authors:

Henry Owuor, Dan Gikonyo, Premanand Ponoth, Anthony Gikonyo
Karen Hospital, Kenya

English Abstract:

Background: CTEPH, a WHO group 4 cause of pulmonary hypertension (PH), is a rare and life-threatening complication of pulmonary embolism (PE) characterized by organized thromboembolic material and vascular remodeling in the pulmonary vasculature. Even though surgery (pulmonary endarterectomy) is the guideline-recommended treatment given its curative outcomes, it is very important to make a prompt diagnosis to aid timely intervention.

A center experienced in CTEPH surgery is vital for excellent post-surgery outcomes. Inoperable cases can be managed using medical therapy, including the novel riociguat, and with balloon pulmonary angioplasty. No role exists for bridge therapy as one awaits surgery given that it has shown no improvements in outcome.

Case Presentation: This case report discusses a 38-year-old man referred to the facility with right heart failure NYHA class III secondary to CTEPH. He had a history of pulmonary embolism 15 months prior to the referral. ECG showed right axis deviation, RBBB, S1Q3T3 pattern and borderline prolonged QT; echocardiogram demonstrated severe pulmonary hypertension (RVSP>60mmHg), severe tricuspid regurgitation, markedly dilated and hypertrophied right ventricle and a dilated right atrium with normal left ventricle and atrium, a normal left ventricular ejection fraction (68.9%) and a flattened interventricular septum. Pulmonary CT angiogram reported features suggestive of an acute on chronic pulmonary thromboembolism in the right main pulmonary trunk extending to the upper and lower segmental branches and right sided heart congestion. The patient was taken to theatre for pulmonary endarterectomy and cardiopulmonary bypass surgery, which was successful. However, the patient succumbed 12 hours after surgery.

Conclusions: Eliciting a history of previous PE or having a high index of suspicion for CTEPH in unexplained PH is vital for prompt diagnosis and evaluation for surgery. The Kenya Cardiac Society and the Pan-African Society of Cardiology can work together with the available expertise and facilities to support and nurture a regional center of excellence for CTEPH care to improve patient outcomes. This noble specialty should strengthen its collaboration with palliative care teams in the management and follow-up of PH and CTEPH patients.

Keywords: CTEPH; pulmonary hypertension; pulmonary embolism; pulmonary endarterectomy

Submission ID: 810

TRANSCATHETER CLOSURE OF PERIMEMBRANOUS VENTRICULAR SEPTAL DEFECT IN PEDIATRIC POPULATION : PROSPECTIVE STUDY IN ALGERIAN CENTER

Author:

Mohamed Touati
CMCI Bouismail, Algeria

English Abstract:

Objectives: Assess the efficiency and safety of percutaneous closure of perimembranous Ventricular septal defect (PVSD).

Background: Transcatheter closure is previously-approved technic for perimembranous VSD, but little is known about outcomes in pediatric population

Methods: Two hundred and fifty patients were enrolled in a prospective study. The procedures were performed under general anesthesia, echocardiography and fluoroscopic guidance. Prospective follow-up using transthoracic echocardiography and electrocardiogram was done until June 2021.

Results: The mean age was 9.5years (3 to 16years), and the median body weight was 21 Kg The mean defect size was 6.3 ±2mm. All devices were successfully and rapidly implanted. No device embolized was noticed. Follow-up ranged from 3 to 18 months. Complete closure was achieved in 94.4 % of patients. Two patients developed complete heart block 24 hours and 1 week after implantation, the device was percutaneously retrieved in both cases followed by reverting to normal heart rhythm.

Conclusions: In our prospective study we describe early and late results of percutaneous closure of Perimembranous ventricular septal defect in pediatric population.

Submission ID: 808

CARDIO-EMBOLIC STROKE FROM LEFT VENTRICULAR NON-COMPACTION UNMASKED DURING DIABETIC KETOACIDOSIS AND PRESENTING AS STATUS EPILEPTICUS IN A YOUNG KENYAN MALE

Authors:

Linda Barasa, Newnex Mongare, Mzee Ngunga, Dilraj Sokhi
Aga Khan University Hospital, Nairobi, Kenya

English Abstract:

BACKGROUND: Idiopathic left ventricular non-compaction (ILVNC) is a rare form of cardiomyopathy that can cause cardio-embolic stroke (CES) in young people, and usually goes undetected until hyper-dynamic states unmask the pathology.

METHODS: We describe a unique case who presented with status epilepticus and severe diabetic ketoacidosis (DKA), and was found to have CES, for which the underlying cause was eventually found to be newly diagnosed ILVNC.

RESULTS: A 20-year-old-male known to have type 1 diabetes mellitus presented to his local hospital with headaches, malaise and fever, and was found to be having severe DKA. He was treated with fluid resuscitation, insulin infusion, and intravenous antibiotics but soon progressed to status epilepticus (SE) and was thus referred emergently to our regional tertiary referral centre. He was intubated, ventilated and commenced on further treatment for SE. A comprehensive septic screen including computed tomography (CT) head scan, COVID-19 testing and lumbar puncture were all normal. Magnetic resonance imaging (MRI) of the brain revealed small cortical acute infarcts in the left parietal and right frontal lobes. Extensive cardiovascular, metabolic, inflammatory and infective investigations for causes of cryptogenic stroke were unremarkable except the transthoracic echocardiogram revealing ILVNC. His DKA and SE were managed well and he was discharged with additional antiplatelet therapy. He is awaiting further evaluation with cardiac MRI (he declined trans-oesophageal echocardiography) before considering switching to anticoagulation.

CONCLUSIONS: CES can present with SE and may only be revealed on MRI. Cryptogenic CES in young patients must be investigated with dedicated cardiovascular imaging to look for rare causes such as ILVNC so as to commence appropriate secondary prevention therapy.

Submission ID: 804

CASE REPORT OF A LEFT LATERAL ACCESSORY PATHWAY WITH DECREMENTAL CONDUCTION

Authors:

Arnaud Sonou*, Mouna Ben Kilani, Adrien Carabelli, Peggy Jacon, Sandrine Venier, Paul Peter, Pascal Defaye
CNHU Hubert Koutoukou Maga, Bénin

English Abstract:

Introduction: Orthodromic reciprocating tachycardias using a concealed accessory pathway with slow, decremental conduction are rare. In published series, the most described form is permanent junctional reciprocating tachycardia (PJRT) characterized on the electrocardiogram by RP' interval longer than P'R and a negative P' wave in the inferior leads. Authors report a case of concealed left lateral accessory pathway with the electrophysiological properties of PJRT but atypical in its location and electrocardiogram presentation in tachycardia.

Case description: He was a 23-year-old man with no known cardiovascular history or atheromatous risk factors, who complained

of palpitations felt as regular, with an abrupt onset, triggered by position changes such as forward bending of the chest, and calmed by the Valsalva maneuver (forced exhalation with closed glottis). Physical examination and baseline electrocardiogram were normal. During electrophysiological exploration, analysis of the retrograde conduction by pacing the right ventricle at increasing rate showed in the coronary sinus, a sequence that was initially concentric and then changed to eccentric. This change was observed from a pacing interval of 340 milliseconds, suggesting presence of a left lateral accessory pathway. Injection of adenosine triphosphate during right ventricle pacing resulted in blockade of retrograde conduction through the accessory pathway, demonstrating a decremental property of this conduction. A regular tachycardia with a ventricular rate of 225 beats per minute was triggered by atrial extrastimulation after intravenous injection of isoprenaline. On the surface electrocardiogram, this was a thin QRS-complex tachycardia, without aspect of ventricular preexcitation, with an RP' interval shorter than the P'R. P waves were not clearly identifiable on the electrocardiogram.

An ablation catheter was placed on the mitral annulus via a transeptal approach. A 60-second successful radiofrequency ablation was performed in tachycardia and allowed a rapid return to sinus rhythm.

Conclusion: This accessory pathway of uncommon left lateral location, was successfully treated by radiofrequency ablation in 1st intention. This clinical case and the data in the literature confirmed that ablation gives excellent results in this condition, almost without complications when performed at a reasonable age.

Submission ID: 797

WARM IT UP – ASCENDING AORTIC AND ARCH SURGERY WITH MILD HYPOTHERMIA (30 DEGREES CELSIUS) AND ANTEGRADE CEREBRAL PERFUSION

Author:

Andrew Duncan

Aga Khan University Hospital Nairobi, Kenya

English Abstract:

Traditional deep hypothermic circulatory arrest at 18 degrees Celsius (DHCA) used for ascending and arch aortic surgery has significant morbidity. Since May 2021 three patients underwent ascending aortic replacement with open distal hemi-arch anastomoses using right axillary artery cerebral perfusion with a short period of lower body circulatory arrest at mild hypothermia of 30 degrees Celsius. Pathology was a single case each of degenerative aneurysm, chronic dissection (DeBakey 2) and emergency repair acute Stanford Type A dissection. Bypass times were 121,132 and 199 mins respectively with aortic cross clamp times 85,72 and 99 mins and isolated cerebral perfusion (lower body arrest) times of 16, 18 and 24 minutes. All were extubated within 24 hours. There were no neurological deficits and no renal support was required although the acute dissection case creatinine rose from 150 micromols pre-op to 288 post op. One case did not require blood products and the other two each received three units of packed red cells, two platelet pools and 4 cryoprecipitate. Post -op bleeding was minimal. There were no respiratory complications and visceral and lower limb function was normal. The elective patients were discharged on the 7th post-op day.

This technique allows safe conduct of open arch repair traditionally dependent on DHCA. Cooling to mild hypothermia reduces bypass times, coagulopathy and end organ dysfunction seen with profound hypothermic arrest. Short periods of lower body arrest at 30 degrees Celsius appear safe and cerebral perfusion is maintained throughout surgery using antegrade perfusion via the right axillary artery. This technique is versatile and suitable for both elective and emergency aortic arch surgery.

Submission ID: 811

CONGENITAL HEART DISEASE PRESENTING DE NOVO IN ADULTHOOD: A 16 YEAR EXPERIENCE AT A TERTIARY HOSPITAL

Authors:

Sandhiran Nadar, Datshana P Naidoo, Dhiren Sadhabiriss UKZN, South Africa

English Abstract:

Background: Congenital heart disease (CHD) is grossly under-diagnosed and under-reported in sub-Saharan Africa. Many patients are missed during childhood and present as adults after developing symptoms. We aim to describe the incidence, spectrum and outcomes of adult congenital heart disease (ACHD) at a single tertiary centre in KwaZulu-Natal, South Africa.

Methods: This is a retrospective analysis of patients aged 12 years and above with a new diagnosis of CHD over the period 2003 to 2019. Baseline clinical and echocardiographic characteristics, laboratory investigations, cardiac catheterisation measurements, and outcomes of intervention were recorded.

Results: We evaluated 455 patients with 537 congenital heart defects over 16.4 years (incidence rate 26.7/year); 359 (78.9%) had acyanotic CHD. The mean age was 26.96 years (± 12.36); patients with acyanotic CHD were older than those with cyanotic CHD (27.74 (± 12.74) vs. 24.03 (± 10.35); $p=0.006$). The majority were female [273 (60%)], however, cyanotic CHD was more common in males (52.1% vs 36.8%; $p=0.007$). The most common CHD were atrial septal defect (139), ventricular septal defect (101), atrioventricular septal defect (50), pulmonary stenosis (45), tetralogy of Fallot (40), patent ductus arteriosus (34), Ebstein's anomaly (26) and sub-aortic membrane (18). Most were NYHA class II or III disabled [330 (73.3%)]. Infective endocarditis occurred in 22 (4.8%) and 3 (0.7%) had stroke or peripheral embolism. The diagnosis of pulmonary arterial hypertension [92 (42.8 %)] and Eisenmenger syndrome [18 (8.0%)] was based on cardiac catheterisation, which was undertaken in 215 patients. Surgery was performed in 158 (60.1%) of the 263 patients in whom it was indicated. The peri-operative mortality rate was 1.3% and the peri-operative morbidity rate was 8.9%. The overall mortality rate was 3.7%. The most common causes of death were heart failure, renal failure and sepsis. 273 (62% of survivors) defaulted follow-up, 110 of whom defaulted prior to intervention.

Conclusion: The annual incidence of ACHD has remained stable over the past 16 years with septal defects being the most frequent lesions. The mean age at diagnosis was in the third decade with cyanotic CHD presenting slightly earlier than acyanotic CHD. Despite a low peri-operative mortality rate, many patients did not undergo surgery. The discrepancy in planned and actual surgical intervention was largely due to poor patient adherence to follow-up.

Submission ID: 800

REDUCING THE BURDEN OF HYPERTENSION THROUGH A COMMUNITY-LED APPROACH IN MERU COUNTY

Authors:

Raymond Muhajji, Beatrice Okumu, Catherine Kanari Amref Health Africa, Kenya

English Abstract:

Background: Hypertension is the leading risk factor for cardiovascular disease (CVD), the leading cause of death worldwide. A third of the global population is affected by the disease¹. Low- and middle-income countries (LMICs), including Kenya, bear a significant non-communicable diseases (NCDs) burden. Hypertension is also associated with a high out-of-pocket expenditure to patients and families, with an annual cost of US\$477, contributing to 59% of the catastrophic healthcare costs².

In Kenya, a quarter of the population aged 18–69 years is estimated to be hypertensive². Lack of awareness has been cited as the main barrier to achieving satisfactory control rates. A recent meta-analysis of African studies showed awareness, treatment, and control rates of 27%, 18%, and 7%, respectively. A Kenyan study showed a 15.5% awareness rate, of whom 26.9% were on treatment, and only 51.7% of these were controlled³.

AMREF Health Innovations Project “Blueprint for Innovative Access to Healthcare” seeks to tackle the rise in NCDs, working with Community Health Volunteers in Meru county.

Methods: 1,000 Community Health Volunteers (CHVs) and 63 Community Health Assistants (CHAs) distributed across the 11 sub-counties in Meru County were trained through M-learning on the Amref leap platform. The Hypertension module covered topics on Risk factors, measuring community on prevention and management and referral of hypertensive patients. During their households’ visits, CHVs create Awareness on hypertension and conduct household screening using the 1000 digital devices.

Amref’s data collection tool and Hypertensive patients are referred to link facilities for treatment and follow-ups.

Results: In 2021, CHVs conducted 18,029 Blood pressure screenings in 49,429 households creating awareness across a population of 134,334 individuals. 4,800 hypertensive clients were referred to healthcare facilities for further checkups.

Conclusion: Collaborative efforts are urgently needed to combat the emerging hypertension burden in Kenya. Community Health Volunteers have proven effective in reducing the burden of hypertension through early screening and linkage of hypertensive patients to care.

Submission ID: 812

UTILITY OF TILT TABLE TESTING – A CASE SERIES

Author:

DR FIONA KAHANGE
HRMC, Kenya

English Abstract:

UTILITY OF TILT TABLE TESTING IN CLINICAL ASSESSMENT – A CASE SERIES

Syncope, unexplained falls, and dizziness are all symptoms which can be evaluated using Tilt table testing.

METHODS: We conducted a retrospective analysis of patients seen at the Heart Rhythm Medical Centre in Nairobi who were evaluated for syncope using the Italian protocol for the tilt table test. Data was analysed using SPSS V 16.0. Between August 2019 and July 2021, 47 patients underwent tilt table testing of these 52.2% were female and 47.8% were male. Youngest patient was 13 years, and the oldest 77 years. 84.8% of the subjects were below the age of 44 years. 4.3% were less than 15 years, 30.4% were 15-24 years, 26.1% were 25-34 years, 23.9% were 35-44 years, and 15.2% were above the age of 45 years. The most common presenting complaints were syncope (68.4%) and dizziness (21.1%). 71% of patients had no underlying comorbidities, the other 29% were noted to have diabetes, hypertension, anxiety, schizoaffective disorder, sick sinus syndrome, ischemic heart disease and gout. Of the total 47 patients, 31 had a positive tilt table test accounting for 65.96% of which 34% had a mixed type 1 response, 31.91% had a type 3 response, and no patient was found to have type 2 response.

CONCLUSION: Tilt table testing is easy to perform, accurate and useful to identify aetiology of common cardiovascular complaints

Submission ID: 809

PERCUTANEOUS PULMONARY VALVE IMPLANTATION THE ALGERIAN EXPERIENCE

Author:

Mohamed Touati
CMCI Bouismail: Medico-surgical pediatric heart surgery center, Algeria

English Abstract:

Percutaneous pulmonary valve implantation (PPVI) is a less invasive alternative to surgery in treatment of right ventricular outflow tract dysfunction. This study reports the Algerian experience in PPVI.

Between November 2017 and May 2021, 27 patients underwent percutaneous pulmonary valve implantation in our center, CMCI Bouismail, Algiers. The mean age was 18 years (range 11 to 25 years). Follow-up ranged from 3 to 46 months. Significant reduction in right ventricular systolic pressure was noticed (from 77 ± 21 to 48 ± 17 mm Hg, $P < 0.001$). One patient (3.7 %) was reoperated one year later for important residual right ventricular outflow tract stenosis. Two patients (7.4 %) developed infective endocarditis six months and one year later. Freedom from transcatheter reintervention was 96%, one patient underwent postprocedural valve dilatation for a residual RV stenosis.

PPVI is a safe and feasible treatment for right ventricular outflow tract dysfunction.

Submission ID: 822

BODY MASS INDEX AND HEART FAILURE: PARADOX OR MISTAKEN IDENTITY?

Authors:

BASIL NWANERI OKEAHIALAM, SAMUEL UCHE UGURU,
CHRISTIAN OGOM ISICHEI
JOS UNIVERSITY TEACHING HOSPITAL, JOS, NIGERIA

English Abstract:

BACKGROUND: Obesity paradox is a clinical situation where obesity confers benefit. This is anachronistic considering that obesity increases the risk of cardiovascular diseases like heart failure (HF). This raises the question of whether obese patients with clinically diagnosed HF actually so.

METHODS: Adults with clinical diagnosis of HF admitted on our service were studied. History, physical and echocardiographic examinations were done. Blood was taken for point of care NT-pro BNP assay

RESULTS: There were 120 patients; 69 males and 51 females aged between 18 to 92 years with a mean of 51.9 ± 16.67 (SD) years. The NT-pro BNP levels ranged from 301.0 to 950.0 pg/ml with a mean of 509.7 ± 161.9 (SD) pg/ml. Applying the appropriate age specific cut off values, 25/120 (20.8%) were accurately identified as HF; while 95/120 (79.2%) were misclassified. Of the 120, 13 were obese, 29 overweight and 78 normal. 11/13 of the obese (84.6%) were misclassified. 22/29 overweight (75.9%) were misclassified and 62/78 with normal weight (79.5%) were misclassified. The proportion misclassified was high across board but highest for the obese category. Mean ejection fraction (EF) rose significantly ($p = 0.037$) with BMI; more for males ($p = 0.019$) than females ($p = 0.54$). Using EF $> 50\%$ to define heart failure with preserved ejection fraction (HFpEF) BMI was higher in HFpEF compared with HFrEF to a statistically significant level, $p = 0.001$ again more in males than females.

CONCLUSION: Using BNP as a marker of HF in the obese gives inconsistent results; and should be reserved for prognostication and follow-up. Most obese people are likely to present with clinical features of HF without actually being in HF.

Submission ID: 816

AMBULATORY TREATMENT OF ACUTE DECOMPENSATED HEART FAILURE IN RESOURCE LIMITED SETTING- A CASE SERIES

Author:

HELLEN MWENDE
HRMC, Kenya

English Abstract:

BACKGROUND: Acute decompensated heart failure (ADHF) affects 11.6 per 1000 hospitalized patients(US data) is attended by severe morbidity and mortality. ADHF is managed by hospitalization which in a resource limited setting is a major impediment to the provision of care. We present 5 patients managed for ADHF on an outpatient basis

METHODS: Between the dates of 1st February 2021 and 30 June 2021, 5 patients who were diagnosed with ADHF at the Heart rhythm Medical centre were treated using a three day regime consisting of Intravenous Torasemide, Nebulised salbutamol/Ipratropium and a beta blocker or amiodarone. These patients underwent daily review including vital signs, weight and laboratory tests. They were put on oral medication from day four and reviewed regularly for a month.

RESULTS: Five patients all males ages 55-77 underwent the ambulatory treatment regime. All were stable in one week and at one month with acceptable laboratory parameters.

CONCLUSION: Ambulatory treatment of acute decompensated heart failure is both an effective and safe treatment strategy and should be considered in a resource limited setting.

Submission ID: 801

EFFECTS OF AN AEROBIC EXERCISE-BASED CARDIAC REHABILITATION PROGRAM ON AUTONOMIC FUNCTION IN STABLE CHRONIC HEART FAILURE PATIENTS IN YAOUNDÉ-CAMERON: A PILOT STUDY

Authors:

Nganou-Gnindjio Chris Nadège, Tchaptchet Mbetbat Paul Kisito, Mbouh Samuel, Mulende Ngangue Brenda Lise, Messang Abou Rosemary Pricilia, Dembe Nzau Teclairie Stephanie, Shu Beckly Kwondom, Mbock Hans Christian Eock, Assomo Ndemba Peguy, Kingue Samuel

Faculty of Medicine and Biomedical Sciences / University of Yaoundé, Cameroon

English Abstract:

Introduction: Heart failure (HF) is the final stage of evolution of most cardiovascular pathologies. It is also associated with many abnormalities such as autonomic dysfunction. Heart rate variability (HRV) constitutes a non-invasive method to evaluate the autonomic nervous system modulation on the cardiac sinus node.

Objective: To evaluate the effects of an aerobic exercise-based cardiac rehabilitation program on autonomic function in stable chronic heart failure patients in Yaoundé-Cameroon. **Methods:** We carried out a non-randomised pre-post clinical trial during a five months period. Patients were recruited from the Yaoundé Central Hospital and Yaoundé General Hospital. Eligible participants benefitted from a cardiac rehabilitation program for six weeks consisted of endurance exercise training sessions, three times per week, an education program, and psychological support. The primary endpoint was the standard deviation of normal RR intervals (SDNN) of the time-domain parameters of HRV measured from the 24-h electrocardiographic

recording. Statistical analysis was performed using the SPSS software 23.0. The significance level was set at 5%.

Results: Thirteen patients completed the intervention and their data were included in data analysis. Among them, we had 8 men and 5 women. The mean age of our study population was 60.5±11.5 years, [37-75] years. The most represented New York Heart Association (NYHA) class was class II, 11(84.6%). The mean left ventricular ejection fraction (LVEF) according to Simpson Biplane was 41.2±18.2% [18-70] % with 8(61.5%) with HF with reduced ejection fraction (HFrEF). After the program we noted a significant increase in pNN50 which moved from 11.0(3.3;14.5) to 12.4(4.1;22.2) % (p=0.043). There was a non-significant increase in the other time-domain parameters: SDNN from 89.9(80.7;135.6) ms to 103.0(86.2;151.3) ms (p=0.38); SDANN from 73.2(62.1;105.5) ms to 83.0(60.7;96.6) ms (p=0.22);54.2(42.65;76.15) ms to 56.7(45.5;117.2) ms (p=0.116). Also, there was a non-significant improvement of the frequency domain parameters: HF increased from 327.7(161.5;563.4) ms² to 366.0(215.2;1203.5) ms² (p=0.075) and LF/HF ratio decreased from 0.83(0.558;1.042) to 0.615(0.537;0.899).

Conclusion: Anaerobic exercise-based cardiac rehabilitation program shows trends towards the improvement of HRV thus autonomic function in stable chronic HF patients.

Keywords: Heart failure, cardiac rehabilitation, heart rate variability, Cameroon

Submission ID: 857

FETAL SCREENING FOR CONGENITAL HEART DISEASE IN SENEGAL: PRELIMINARY STUDY ABOUT 103 CASES. DIOP I.B., KAYA M., BA K., DIEYE O., SARR N.A., TINE E.

Authors:

DIOP IB, KAYA
Sept Cardiology Fann Hospital Dakar, Sénégal

English Abstract:

OBJECTIVE: The objective of this study was to present the results of Fetal echocardiographic screening in terms of efficacy and impact on the management of pregnancy and postnatal care.

METHODOLOGY: we conduct a retrospective study of 103 pregnant women who underwent fetal echocardiography at the request of their gynecologist during the period from January 2007 to august 2021.

RESULTS: The mean age of the women at the time of examination was 33 ± 5 years with an average pregnancy age of 29 ± 5 weeks. The reasons for referral were dominated by maternal age beyond 30 years, the presence of a family history of heart disease and the primary morphological and cardiac abnormalities observed by the obstetrician. Cardiac Fetal examination revealed 27 abnormalities (26%). The anomalies were dominated by endocardial cushion defect 14 cases (51%), Tricuspid atresia was detected in 4 cases (14%), ventricular septal defect and hypoplasia of the left ventricle in 2 cases (7%), Tetralogy of Fallot was found in one case (3%), as well as, Ebstein's disease, Truncus arteriosus, Interruption of the aortic arch, pulmonary atresia with intact ventricular septum, Double outlet right ventricle. The course of pregnancy and postnatal status were only available in 8 patients (30%). The fetus with Double outlet right ventricle and Tricuspid atresia died 2 days after birth. One patient underwent surgery at 3 months of life. One woman had an abortion.

CONCLUSION: This study shows that well-conducted prenatal detection for congenital heart diseases is useful with the potential to improve delivery conditions and neonatal morbidity and mortality. The importance of the lost to follow-up should encourage the improvement collaboration strategies between obstetricians cardiologists and pediatricians during the perinatal and postnatal period.

Submission ID: 851

AN UNMET NEED: ATRIAL FIBRILLATION AND LEFT ATRIAL APPENDAGE OCCLUSION IN AFRICA

Author:

MARK ABELSON

VERGELEGEN MEDI CLINIC, UNIVERSITY OF CAPE TOWN, South Africa

English Abstract:

Oral anti-coagulant therapy (OACT) in patients with atrial fibrillation (AF) is either impractical or too expensive. Warfarin requires regular INR testing which is mostly unavailable in remote areas and the newer direct OACT's, while more convenient, are too expensive for many people to afford. Like warfarin, they also confer similar bleeding risks, and are contra-indicated in many people due to underlying bleeding problems or high risk of bleeding.

Left atrial appendage occlusion (LAAO) is a very attractive one stop option for patients with AF who require OACT to reduce stroke risk, especially in Africa where access to such medication is either too expensive or impractical. The initial higher cost of implantation is offset in the long term by significantly reduced bleeding complications, reduced stroke (similar to being on OACT) and improved long term survival. LAAO has been shown to be cost effective in the long term.

I will present how to establish a successful LAAO program and demonstrate how to perform this procedure. based on my recently published paper in CVJA - Nine year experience in LAAO.

2.38, 95% CI 1.42–3.99). The app was beneficial when participants searched by ECG features (abnormal waveforms [OR 2.62, 95% CI 1.23–5.53], features of bradyarrhythmias [OR 2.43, 95% CI 1.18–5.00] or features of tachyarrhythmias [OR 2.12, 95% CI 1.42–4.40]), but not by diagnosis. Using the ECG reference app required less time than searching the Internet (7:44±4:13 vs 9:14±4:34, p<0.001). Mobile learning gains were not sustained after two weeks.

Conclusion: Mobile learning improves the diagnostic accuracy of ECG interpretation of undergraduate medical trainees. Mobile learning specifically aided students in the process of revising and correcting an initial incorrect ECG diagnosis. However, mobile learning was only beneficial when the user could correctly identify the characteristic features in support of an ECG diagnosis. For diagnostic accuracy, an algorithm-based ECG reference app was better than unguided Internet searches and required less time. The benefits of once-off mobile learning experiences were not sustained over time.

Submission ID: 836

COMPETENCIES IN ECG INTERPRETATION AMONG NEWLY GRADUATED MEDICAL STUDENTS AT THE UNIVERSITY OF NAIROBI SCHOOL OF MEDICINE

Author:

Oluga Fredrick

Ministry of Health, Kenya

English Abstract:

ECG is vital in screening, diagnosis and monitoring treatment of cardiovascular diseases. ECG interpretation accuracy influences the sensitivity and specificity of ECG utility in clinical practice. ECG interpretation competency has been studied in residents, physicians and cardiologists with varied results reported for each group. However, no study has evaluated ECG interpretation competency among newly graduated medical students in Africa.

Our study determined ECG interpretation competency among newly graduated medical students at the University of Nairobi.

Graduate medical students from the University of Nairobi were requested to participate in a web-based ECG survey containing 22 ECG strips. Initial survey questions concerned confidence in ECG interpretation and ECG training adequacy. The 22 ECG strips were derived from ECG Wave Maven – an ECG reference resource. A Participant could access the web-survey only once. 22 ECG strips were displayed successively for 90 seconds without any chance for revising a previous response. Data analysis was restricted to determining the proportion of participants who correctly interpreted 11 or more ECG tracings. This was reported as summative competency. Proportion of correct responses for each ECG tracing was determined and reported as Individual ECG Competency. The average for all Individual ECG Competencies calculated and reported as the Mean Competency Score. A multivariate analysis was done to correlate competency with self-reported confidence and self-reported adequacy of ECG training.

2.8% of participants were considered competent for correctly interpreting 50% or more of the 22 ECG strips used in survey. ECG tracing for Hyperkalemia was the most correctly interpreted at 61% while ECG tracing LAFB was the least correctly interpreted at 5.1%. The mean competency score was 4.24 (19.27%). Correlations between ECG Competency and self-reported Confidence and self-reported adequacy of ECG training couldn't be determined statistically because only 5 participants were found competent. Further, data on adequacy of training was insufficient.

We conclude that graduate medical students at the University of Nairobi have limited ECG interpretation competency. Further studies are necessary to determine effective ECG interpretation teaching methods.

Submission ID: 807

EVALUATING THE UTILITY OF MOBILE LEARNING IN ELECTROCARDIOGRAPHY

Authors:

Charle Viljoen, Rob Scott Millar, Julian Hoevelmann, Elani Muller, Lina Hähnle, Kathryn Manning, Jonathan Naude, Karen Sliwa, Vanessa Celeste Burch

University of Cape Town, South Africa

English Abstract:

Introduction: Mobile learning is attributed to the acquisition of knowledge derived from accessing information on a mobile device. Although increasingly implemented in medical education, research on its utility in Electrocardiography remains sparse. In this study, we explored the effect of mobile learning on the accuracy of ECG analysis and interpretation.

Methods: The study comprised 181 participants (77 fourth- and 69 sixth-year medical students, and 35 residents). Participants were randomised to analyse ECGs with a mobile learning strategy (either searching the Internet freely or using an ECG reference app, ECG APPtitude) or not. For each ECG, they provided their initial diagnosis, the key features supporting their diagnosis, and final diagnosis consecutively. Two weeks later they analysed the same ECGs, without access to any mobile device.

Results: ECG interpretation was more accurate when participants used the ECG app (56%), as compared to searching the Internet (50.3%) or neither (43.5%, p=0.001). Importantly, mobile learning supported participants in revising their initial incorrect ECG diagnosis (ECG app 18.7%, Internet search 13.6%, no mobile device 8.4%, p<0.001). However, whilst this was true for students, there was no significant difference amongst residents. Trainees improved their diagnostic accuracy if they searched the Internet using the correct ECG features (OR 2.24, 95% CI 1.34–3.76) or ECG diagnosis (OR

Submission ID: 859

PERCUTANEOUS BALLOON MITRAL VALVULOPLASTY FOR RHEUMATIC MITRAL STENOSIS: INAUGURAL EXPERIENCE IN WEST AND CENTRAL AFRICA

Authors:

DIOP IB, BA K

Dept Cardiology Fann Hospital Dakar, Senegal

English Abstract:

INTRODUCTION: Development of percutaneous balloon mitral valvuloplasty (PBMV) has dramatically change treatment strategy of rheumatic mitral stenosis. This technique in spite of its great interest in our context is far from available in sub-Saharan Africa. Our objective was to bring back our first experience of PBMV and to evaluate the short-term results.

PATIENTS and METHODS: Our study included 60 patients with severe rheumatic mitral stenosis with favorable valvular anatomy appreciated by ultrasound. Patients underwent PBMV with Inoue balloon under local or general anesthesia, by femoral vein route and trans septal puncture in our cathlab.

RESULTS: Mean age was 26.64 ± 7.54 years. The sex-ratio was 0.22. A class II to IV (NYHA) dyspnea was present in 100% of our patients.

The mean diameter of the balloon was 27.76 ± 1.33 mm. Immediately after dilatation Ultrasound evaluation showed an increase of mitral area from $0.70 \text{ cm}^2 \pm 0.18$ to $1.53 \pm 0.39 \text{ cm}^2$ and a reduction in mean trans mitral gradient and systolic pulmonary pressures respectively from 15.84 ± 6.43 mmHg to 5.71 mmHg ± 2.15 and from 70.15 mmHg ± 26.86 to 49.1 mmHg ± 19.4 .

One of our patients had a significant mitral regurgitation in post procedure period. After follow up at 3, 6 and 12 months 98.33% of patients had clear improvement of symptoms with stability of the echocardiographic data.

CONCLUSION: From several years, Fann's Senegalese team has been fully autonomous in this procedure actually available in a routine basis. The PBMV is a success in Africa with very few complications. It is a privileged technic to be developed in Africa.

Keywords: Mitral Stenosis, Echocardiography, Percutaneous Valvuloplasty, Senegal.

Submission ID: 818

USE OF BALLOON VALVOTOMY AS BRIDGE TO SURGERY FOR SEVERE MITRAL STENOSIS WITH HIGH WILKINS SCORES

Author:

Gerald Yonga

University of Nairobi, Kenya

English Abstract:

Background: Scarce facilities for cardiac interventions for severe mitral stenosis, inability to afford the interventions and late presentation with complications which increase surgical risk are common socio-economic determinants of outcome of this disease. This situation results in difficult decision making on options for intervention in the individual cases. Percutaneous Balloon Mitral Valvotomy (PBMV) has therefore been performed in patients outside the optimum Wilkins score for best outcomes to temporarily improve haemodynamics and act as bridge procedure to surgery in cases which are too high risk for open-heart surgery. The author conducted a retrospective analysis of the immediate and medium-term outcomes of such cases in Kenya.

Methods: Bridge PBMV was performed in 152 patients with symptomatic severe mitral stenosis from 1999 to 2020. The age range was 9- 56yrs with mean age of 28yrs, and female to male

ratio of 1.8: 1. Vast majority of the causes of mitral stenosis were rheumatic in origin. Main reason for Bridge PBMV was high risk for immediate surgery due to severe/intractable pulmonary oedema, severe pulmonary hypertension and liver failure. The details of the procedure, immediate and follow-up results at 1 month, 3months, 6 months, and 12 months were recorded and analyzed. The cohort for the follow-up was divided into two groups; patients who eventually received surgery and those who did not. Of the patients who did not receive surgery, reasons were recorded, and also outcomes of NYHA functional class, CV complications, and death. Of the patients who received surgery, the timing of surgery, and the results of the surgery were recorded.

Results: The bridge PBMV procedures were successful in 93% patients. During 1 year follow-up, 90% patients remained in NYHA functional class I-II, 6.6% developed stroke, 9% were re-admitted, 2 developed endocarditis, 1 rheumatic fever and 9 (7.4%) died. 54.9% patients managed to have surgery done while 45.1% did not have surgery within the year. Of those who had surgery, all underwent mitral valve replacement. In hospital mortality was 6%. In 62.7% of the patients the postoperative course was uneventful. The total complication rate was 31.3%.

Conclusions: Late presentation of mitral stenosis with severe disease remains a significant problem in the management of mitral stenosis in Sub-Sahara Africa. This scenario has created need for innovative approaches to improve survival and quality of life.

Submission ID: 827

MINOCA RESULTING FROM CORONARY SPASM CONFIRMED ANGIOGRAPHICALLY WITHOUT ERGONOVINE STIMULATION: A CASE REPORT

Authors:

Serigne Cheikh Tidiane NDAO, Mame Madjiguene KA, Waly Niang MBOUP, Khadiatou DIA, Djibril Marie BA, Demba Waré BALDE, Pape Diadie FALL, Mouhamed Chérif MBOUP

HOPITAL PRINCIPAL DAKAR, SENEGAL

English Abstract:

Background: Myocardial infarction with nonobstructive coronary arteries disease (MINOCA) encompasses a heterogeneous group of disorders. Multimodality imaging plays a great role to figure out underlying mechanism. Coronary artery spasm is a common cause of MINOCA and might be difficult to identify.

Case presentation: A 43-year-old male with no cardiovascular risk factor presented a prolonged acute chest pain at 5 am that resolved spontaneously. The electrocardiogram (ECG), performed 8 hours later, revealed deep anterolateral negative T wave. The troponin was positive, prompting antiplatelet loading doses administration before transfer to our center. At admission, he was asymptomatic and clinical finding unremarkable. The ECG didn't change. The echocardiogram demonstrated anterior wall hypokinesia with preserved ejection fraction (EF). The coronary angiography (CA) revealed a moderate lesion of the proximal left anterior descending (LAD) coronary artery. He was then treated with dual antiplatelet therapy, statin, betablocker with a favorable hospital course.

One week later, he presented chest pain recurrences with anterior ST segment elevation. The CA, without intra-radial nitrate, owing to a vasospasm suspicion, showed a subocclusion of the proximal LAD which resolved after 2mg of intracoronary nitrate. Chest pain and ST segment elevation then disappeared. He remained asymptomatic and was discharged on CCB, long acting nitrates dual antiplatelet and statin; betablocker was removed. The cardiac magnetic resonance (CMR) demonstrated an EF of 45% with anterior ischemia without late gadolinium enhancement.

Conclusion: Our case is about a common cause of MINOCA, namely coronary spasm, diagnosed by coronary angiogram without need of provocative ergonovine test.

Submission ID: 823

DEVELOPMENT OF A CARDIOVASCULAR DISEASE RISK DETECTION TOOL FOR IMPROVED SCREENING OF ATHEROSCLEROTIC CARDIOVASCULAR DISEASES

Authors:

BASIL NWANERI OKEAHIALAM, ANIL I. SIRISENA, NENTAWÉ GURUMDIMMA, DAVID E. OGUCHE
JOS UNIVERSITY TEACHING HOSPITAL, NIGERIA

English Abstract:

OBJECTIVE: Algorithms determining cardiovascular disease risk can misclassify risk in the population. With existing algorithms, up to 60% of cardiovascular events occur in individuals not classified as high risk. We therefore decided to improve on existing tools by including new anthropometric indices in a new algorithm.

METHODS: We secondarily analysed data involving demographic, anthropometric, biochemical and CIMT measurements. An algorithm utilizing 10 risk factors: age, AH, BSI, SBP, DBP, gender, family history of cardiovascular disease, alcohol use, physical inactivity and smoking was designed. Using the CIMT as a standard with the cut of value of > 00078 cm for high atherosclerotic risk we compared our new tool with FRS.

RESULTS: With our new algorithm, 24/221 (10.9%) were at high risk with 109 and 88 at low and intermediate risks respectively. Using the FRS, (218/221) were at low risk; only 3 being in the intermediate and high risk. Both risk algorithms correlated significantly with CIMT determined risk but correlation coefficient was more for the new (0.448) than the FRS (0.300)

CONCLUSION: Misclassification of a disease risk presents dire consequences. Our new risk detection tool, among native Africans will close the gap created by existing algorithms not capturing adequately people of African ethnicity.

Submission ID: 840

CORONARY ANGIOGRAPHY IN DIABETIC PATIENTS: RETROSPECTIVE STUDY OF 101 CASES COLLECTED AT THE INTERVENTIONAL CARDIOLOGY CENTER OF THE ARISTIDE LE DANTEC UNIVERSITY HOSPITAL CENTER IN DAKAR

Authors:

DIOUM MOMAR, MINGOU S. JOSEPH, NDIAYE GUIRANE PAPA, NDIAYE B. MOUHAMADOU, DIAO MABOURY
CHU FANN, Senegal

English Abstract:

BACKGROUND: Coronary artery disease is common among diabetic patients. With the advent of coronary angiography, their exploration has made significant progress. The main objective of this study was to describe the coronary angiographic aspects of diabetes.

METHODS: This was a retrospective and descriptive study carried out at the interventional cardiology center of the Aristide Le Dantec University Hospital in Dakar from January 1 to December 31, 2019. Were included all diabetic patients admitted to the center and having received coronary angiography.

RESULTS: The number of patients included was 101 or a prevalence of diabetes of 24.5%. The average age of patients was 61.8 years. The dominance was male (sex ratio = 1.97). Most patients (76.2%) were known diabetic for over 10 years. Cardiovascular associated risk factors were dominated by inactivity in 60 cases (59.4%) and high blood pressure in 50 cases (49.5%).

The main indications of coronary angiography were acute coronary syndrome with persistent ST-segment elevation in 41 cases (40.6%), stress angina in 21 cases (20.8%) and ischemic heart disease in 15 cases (14.9%).

Coronary angiography was performed mainly radially (96%). It was abnormal in 84 cases (83.1%). Bi-truncated (42.9%) and tri-truncated (38.1%) involvement were predominant. The common core (TC) and proximal segment of the anterior interventricular artery (IVA) were affected in 24 (28.6%) and 58 (69%) cases respectively. Calcifications were noted in 77 cases (76.5%). The lesions were mostly type C (51.9%). The Syntax score reported in 12 patients, averaged 18.75. Angioplasty was performed in 30 patients (29.7%). The active stent was more used in 26 cases (86.6%) against 4 bare stents (13.3%).

CONCLUSION: Coronary disease is a reality in diabetic patients. Their coronary angiography is characterized by diffuse, severe and multifocal lesions. These lesions often require coronary artery bypass surgery but its realization is still difficult hence the use of angioplasty and medical treatment.

Keywords: Diabetes – coronary disease – coronary angiography – Senegal

Submission ID: 862

SURGERY OF ISOLATED VENTRICULAR SEPTAL DEFECT WITH SEVERE PULMONARY ARTERIAL HYPERTENSION: ABOUT 11 CASES

Authors:

Diop Momar Sokhna, Ba Papa Salmane, Aw Abdoulaye, Diagne Papa Amath, Ba Papa Ousmane, Ciss Amadou Gabriel
Thoracic and Cardiovascular Department of Fann, Senegal

English Abstract:

Introduction: Ventricular septal defect (VSD) is a common congenital heart disease due to dehiscences of the septum of the interventricular septum putting the left and right ventricles in communication. One of the complications is pulmonary arterial hypertension (PAH). Aims: To study the epidemiological profile, the clinical and paraclinical aspects as well as the operative and post-operative parameters of patients admitted for VSD with severe PAH (Systolic Pulmonary Arterial Pressure > 50 mmHg) and to evaluate the results of surgery in terms of morbidity and mortality.

Patients and methods: This was a retrospective study that took place in Dakar over a period from January 2017 to January 2021 (4 years). All patients operated on for VSD with PAH greater than 50mmHg were included.

Results: The VSD rate with severe PAH over all operated VSD was 16.92%. The average age of our patients was 46.54 months (7-240 months +/- 66.49). The time from diagnosis to surgery was 26.72 months (1-120 months +/- 36.41). The most frequent symptom was exertional dyspnea (8 patients). Clinical examination revealed a mesocardiac systolic murmur in all patients. The preoperative echocardiographic evaluation made it possible to objectify the interventricular shunt, to specify its site, its dimensions, to specify its restrictive nature or not (speed), to identify the consequences of the shunt on the right ventricle and the left cavities. The mean preoperative systolic pulmonary arterial pressure (SPAP) before the introduction of sildenafil was 75.09mmHg (58-108 +/- 18.4). All the patients were impregnated with Sildenafil with a slight regression of pulmonary pressures with, on ultrasound control, SPAP varying between 51 and 96 mmhg (mean 73.5). All patients were impregnated with Sildenafil with slight regression of pulmonary pressure on ultrasound monitoring. All patients underwent open heart surgery with cardiopulmonary bypass (CPB). Closure of the VSD was achieved by a patch of non-fenestrated heterologous pericardium (PTFE in 10 and Dacron in 1 patient). The mean duration of the CPB was 126.36 min (47-297 min +/- 71.39). The mean duration of aortic clamping was 82.63 min (39 to 167 min +/- 37.5). We deplore 1 operative death by PAH crisis. No surgical revision during the hospital period was observed. The echocardiographic check-out reveals a drop in the level of SPAP observed with SPAP varying between 20 and 78 mmHg (mean: 49 mmhg).

Submission ID: 849

LONG-TERM FOLLOW UP AND PROGNOSIS FACTORS OF REMISSION OF A PERIPARTUM CARDIOMYOPATHY COHORT OF SENEGAL

Authors:

Aw Fatou, J.S. Mingou, R Ben Khaled, S.A. Sarr, G Ndoye, M Kane, C.M.B.M. Diop, P.G. Ndiaye, Y. Diouf, M Bodian, M.B. Ndiaye, M. Diao

Université Cheikh Anta Diop, Sénégal

English Abstract:

Introduction: Peripartum cardiomyopathy (PPCM) is a rare pathology in Western countries, but common in Africa. Its evolution is highly variable and the progression to final stage heart failure is not a rule because almost one third to one half of patients will improve their left ventricular function. In sub-Saharan Africa, there are few prospective cohort studies. In order to identify the long-term evolutionary aspects of this pathology, we opened this PPCM registry and present here the first results after 2 years of follow-up.

Methodology: This work was held in at the cardiology clinic of the Aristide Le Dantec Teaching Hospital of Dakar from January 01, 2017 to January 01, 2019, or a total duration of 24 months. It is an observational, longitudinal and prospective study conducted in patients admitted for peripartum cardiomyopathy.

Results: During the period of our study, 540 patients were admitted, including 320 women. Considering the inclusion criteria, 55 patients were selected. The rate of hospitalization in the cardiology department for peripartum cardiomyopathy was 5.8%. The mean age was 30.5±6.7 years with extremes of 18 and 42 years. Half of the patients came from rural areas (56, 3%), the socioeconomic condition was low in 78.2% of cases. Multiparity and twin pregnancies were noticed respectively in 72.8% and 20% of the cases. Advanced NYHA stage 4 heart failure was noticed in 91% of cases and cardiogenic shock in 3 patients. Left ventricular dilatation was found in 52 patients and severe left ventricular systolic dysfunction was found in 50 patients (90.9%). During hospitalization, 19 patients had complications or 34.5%. The evolution in hospital was favorable in 45 patients or 81.8% of cases. After fifteen (15) months we observed a complete remission in 34 patients (61.8%). The global mortality at 2 years was 7.3%. In multivariate analysis, patients with a dilated left ventricle, a severe alteration of the LVEF and an advanced age, evolved less towards a cure.

Conclusion: The long-term evolution of PPCM is very variable. In spite of a good rate of remission, progression to final stage heart failure and death is not negligible in case of advanced maternal age and severe left ventricular impairment.

Submission ID: 839

CORONARY ANGIOGRAPHY: INDICATIONS, RESULTS AND EFFICACY IN THE DIAGNOSIS OF STABLE ANGINA PECTORIS IN TWO HOSPITAL FACILITIES IN SENEGAL

Authors:

Paul Coffi HESSOU, Joseph Salvador MINGOU, Maboury Diao, Mouhamadou Bamba Ndiaye, Fatou Aw Leye, Simon Antoine Sarr, Malick Bodian, Papa Guirane Ndiaye, Bouna Diack, Alassane Mbaye, Aliou Alassane Ngaide

Laboratory of Physiology and Functional Physiological Explorations; Cheick Anta Diop University (Faculty of Medicine, Pharmacy and Odontology); Dakar, SENEGAL

English Abstract:

Background: The current gold standard for the diagnosis of stable coronary artery disease (CAD) is invasive coronary angiography.

But a large proportion of patients undergoing coronary angiography don't have obstructive coronary artery disease.

Objective: The aim of the present study was to evaluate the diagnostic performance of invasive coronary angiography for patients without known coronary artery disease presenting with stable chest pain syndrome at two hospital structures in Senegal.

Method: We conducted a prospective, descriptive, and analytical study from March 1, 2019, to December 31, 2020 in the Cardiology Departments of General Hospital Idrissa Pouye and University Hospital Center Aristide Le Dantec. During the study period a cohort of patients referred to angiography coronary for diagnostic CAD because of suspected stable angina were enrolled. Demographic characteristics, risk factors, symptoms, and noninvasive test results were correlated with the presence of obstructive coronary artery disease.

Results: A total of 143 patients were included in our study with a median age of 60.91–10.58 years; men were 96 (67.13 %) and women 47 (32.87%). The prevalence of hypertension was 60.84%; diabetes was 34.27%; dyslipidemia was 32.17% and sedentary was 26.57% in our study population. Typical and atypical angina symptoms were present in 37.76% (n=54) and 49.65% (n=71) respectively, while 10.49% had dyspnea. Coronary angiography revealed 59 (41.26%) patients with no CAD as well as 27 (18.88%) with one-vessel; 28 (19.58%) with two-vessel, and 29 (20.28%) with three-vessel disease.

Independent predictive factors for stable angina with the presence of obstructive lesion were: patient age (OR, 2.36; 95% CI, 1.05–5.29; p=0.036); male gender (OR, 1.6; 95% CI, 0.72–3.57; p=0.24); diabetes (OR, 2.14; 95% CI, 0.96–4.75; p=0.06) and necrosis Q waves (4.75; CI, 0.98–23.09; p=0.05).

Conclusion: In our study, more than half of the patients (58.74%) referred for coronary angiography had a confirmed diagnosis. A better clinical and non-invasive assessment is needed to improve the efficiency of patient selection for coronary angiography.

Keywords: stable angina, invasive angiography, diagnostic efficacy, Senegal.

Submission ID: 854

FOLLOW-UP OF HYPERTENSIVE PATIENTS UNDER TREATMENT IN THE CARDIOLOGY DEPARTMENT OF THE ARISTIDE LE DANTEC HOSPITAL IN DAKAR, SENEGAL

Authors:

Mingou Joseph Salvador, Kane Awa, Bodian Malick, Hachem Hussein, Diop Khadimu Rassoul, Sarr Simon Antoine, Aw Fatou, Mbaye Alassane, Kane Adama, Ndiaye Mouhamadou Bamba, Diao Maboury, Kane Abdoul

Cardiology Department, CHU Aristide Le Dantec, Dakar, Senegal

English Abstract:

Background: Hypertension is a common disease and continues to be the major risk factor for cardiovascular morbidity and mortality worldwide. The main AIM of our study, conducted at the cardiology clinic of the Aristide Le Dantec Hospital in Dakar, is to evaluate the follow-up of hypertensive patients under treatment.

Patients and methods: This was a cross-sectional, descriptive, prospective, monocentric study conducted in the cardiology department of Le Dantec Hospital from September 23, 2020, to December 23, 2020 (3 months). All patients with arterial hypertension seen in consultation with or without cardiovascular complications were included. The diagnosis was made when systolic blood pressure (SBP) was greater than or equal to 140 mm Hg and/or diastolic blood pressure (DBP) was greater than or equal to 90 mm Hg, either by self-measurement or by ambulatory measurement.

Results: A total of 71 patients were included with a mean age of 60.2 years. The majority of patients were female (64.8%, 46 patients). The

sex ratio M/F was 0.5. The main cardiovascular risk factors found were sedentary lifestyle (88.7%), dyslipidemia (40.8%), and diabetes (15.5%). The mean blood pressures were 149.6 ± 29.3 mm Hg in the left arm and 148.5 ± 30.6 mm Hg in the right arm for systolic blood pressure; 94.1 ± 22.2 mm Hg in the left arm and 93.6 ± 18.9 mm Hg in the right arm for diastolic blood pressure.

The proportion of patients with a pathological electrocardiogram was 69%, or 49 patients. The most frequent electrical abnormalities were rhythm and/or conduction disorders (52.4%) and left ventricular hypertrophy (31.1%).

Nearly 80.3% of the patients complied with the hygienic and dietary measures.

The proportion of patients on dual antihypertensive therapy was 76.1% (54 patients). In this population, 27.8% (15 patients) were on a combination of a converting enzyme inhibitor/thiazide diuretic. Thirty-nine point one percent (39.1%) of patients with good compliance had their blood pressure controlled (9 patients).

Conclusion: The follow-up of the hypertensive patient is essential, allowing to look for the various repercussions, in particular electrocardiographic, and to make therapeutic adjustments allowing a better blood pressure control.

Key words: Hypertension, blood pressure control, SENEGAL

Submission ID: 858

PEDIATRIC INTERVENTIONAL CARDIAC CATHETERIZATION, AN ALTERNATIVE TO SURGERY AT FANN UNIVERSITARY HOSPITAL IN DAKAR (SENEGAL)

Authors:

DIOP IB, KAYA M

Dept Cardiology Fann Hospital Dakar, Sénégal

English Abstract:

Introduction: Interventional cardiac catheterization has become a recommended therapeutic alternative for a wide variety of congenital heart diseases. The aim of the work was to determine our indications and evaluate the results of our non-surgical management of our patients.

Methodology: Prospective study at the CUOMO cardio-pediatric center (April 2013 to August 2021). All records of patients who underwent pediatric interventional catheterization were included.

Results: A total of 140 patients underwent interventional catheterization procedures including 54 cases (38%) of patent ductus arteriosus (PDA), 48 cases (34%) of Rashkind, 18 atrial septal defect (ASD) closures (12%), 21 cases (15%) of pulmonary valvuloplasty and 2 dilations of aortic coarctation (1%). The mean age of the patients was 4.9 years and the sex ratio was 0.42.

The results of the procedures were very satisfactory with 94.5% ASD closure success, 96% Rashkind maneuver, 100% coarctation angioplasty. We deplore failure of PDA closure in 3 cases (5.5%) and 4 failures of pulmonary valvuloplasty (19%) including valve dysplasia and valve atresia.

Five complications occurred (3 cases of PDA prosthesis migration, an air embolism and a pelvic hematoma) were noted. These complications have been treated successfully. No deaths were recorded.

Conclusion: On all these procedures the Senegalese team of the Fann University Hospital is entirely autonomous and pediatric interventional cardiac catheterization technique should be promoted in Africa because of its many advantages compared to surgery and its very low morbidity and mortality with a well trained team.

Keywords: Interventional Cardiac catheterization; Congenital heart disease; Senegal

Submission ID: 850

ABOLISH HIGH LOAD NORMAL HEART PREMATURE VENTRICULAR CONTRACTIONS IN CHILDREN

Authors:

Salaheldin Hefny Alahwany, Wagdy Abdelhamid Galal, Mazen Tawfik Ghaniem, Lamyaa Elsayed Allam

Ain Shams University, Egypt

English Abstract:

Background: There is little research on whether antiarrhythmic medications (AADs) or radiofrequency catheter ablation (RFCA) are more effective in treating normal heart high load premature ventricular contractions (PVCs) in children, and many questions remain unsolved.

Objectives: To assess the efficacy of RFCA with AADs in children with high load idiopathic PVCs.

Methods: A total of 60 children aged ≤ 18 years old with high burden PVCs ($\geq 10\%$ of total daily beats) were treated with either AADs (group A) or RFCA (group B). Physical examination, repeat standard ECG, standard or 12-lead Holter recording, and echocardiography were all conducted after collecting baseline and follow-up clinical complaints.

Results: Treatment success was 80.0 percent and 20.0 percent in the RFCA (n=30) and AADs (n=30) groups, respectively, whereas AADs medication cessation was 73.3 percent and 26.7 percent, respectively; the differences were statistically significant.

Conclusion: In terms of PVC reduction, RFCA appears to be more effective than AADs. The use of classical mapping and navigation to perform RFCA on children was a safe and highly successful therapeutic alternative.

Keywords: Premature ventricular complexes; radiofrequency catheter ablation; antiarrhythmic drugs; children; radiofrequency catheter ablation.

Abbreviations: AADs = antiarrhythmic drugs; RFCA = radiofrequency catheter ablation; PVC = premature ventricular contraction.

Submission ID: 848

SIGNIFICANT PERICARDIAL EFFUSION: A RARE LATE AND SERIOUS COMPLICATION OF COVID 19

Author:

Mona Rayan

Ain Shams university, Egypt

English Abstract:

A 45 old female patient came to the cardiac imaging unit of Ain Shams Specialized hospital complaining of exertional dyspnea on mild effort of one week duration. She has no past medical history of importance except for Covid 19 infection 3 months before (May 2021). She had fever and respiratory manifestations with + ve PCR for Covid 19. Her chest CT has a picture typical for Covid.

Her blood oxygen concentration was above 95% and she was sent for home isolation and received the Egyptian ministry of health protocol for moderate cases. All the manifestations disappeared except for exertional dyspnea on moderate effort that progressed to dyspnea on mild effort one week before. She sought medical advice and underwent chest X ray that revealed increased cardiac shadow and was sent for echocardiographic evaluation. She had a large circular pericardial effusion measuring 10 mm anteriorly and laterally, 20 mm posteriorly causing early diastolic or late systolic collapse of RA and the free wall and apex of the RV. After the imaging she was hospitalized for pericardiocentesis, 1000 cc of serosanguinous exudate fluid was withdrawn and was discharged 48 hours later on Colchicine and Ibuprofen.

Submission ID: 837

WHOLE GENOME SEQUENCING TO DETERMINE THE RESISTOME AND VIRULOME OF GAS TO IMPROVE MANAGEMENT AND CONTROL OF RHD

Authors:

Kimona Rampersadh, Clinton Moodley, Kelin Engel, Taariq Salie, Mark E Engel

University of Cape Town, South Africa

English Abstract:

Introduction: *Streptococcus pyogenes* (group A streptococcus (GAS)) gives rise to various clinical presentations in humans, from benign to severe invasive infections. Long term sequelae include rheumatic heart disease, which carries a large burden on the African continent. This ubiquitous bacterial pathogen possesses a wide range of virulence factors and displays genomic diversity. Understanding the colonization and infection dynamics of GAS may serve to inform vaccine development and disease management strategies.

Subjects and Methods: Ninety-six GAS isolates, including emm-types commonly isolated from streptococcal pharyngitis, were identified in a prospective surveillance study in Cape Town. After culturing *S. pyogenes* on Trypticase soy agar supplemented with 5% sheep blood, and incubated overnight at 37°C in 5% CO₂, genomic DNA was extracted and sequenced using the Illumina MiSeq 2000 platform. The whole genome sequence (WGS) -analysis pipeline allows for screening for the presence of 24 surface structure, exotoxin, and virulence related gene targets and 21 streptococcal antimicrobial resistance determinants based on gene alleles. The presence of the antimicrobial resistance genes or mutations are used in a "rules-based" resistance strain classification to perform a WGS-based antimicrobial susceptibility test (AST). Whole genome multi-locus sequence types and complexes are subsequently assigned using short read sequence typing (SRST2) and BLAST analysis using an online database.

Results and Conclusion: This study has documented the presence of various streptococcal pyrogenic exotoxins and surface proteins in invasive and non-invasive GAS isolates from Cape Town. Early results revealed a new clone within emm 92 isolates, which were most prevalent. The *ermT* gene, which confers high level macrolide resistance and is prevalent in the US, was not detected in our isolates. This study is expected to contribute knowledge to GAS vaccine development efforts, especially in an African setting, and elucidate the role of major virulence factors which may be associated with GAS infection and RHD.

Submission ID: 842

RHEUMATIC VALVULAR DISEASES: EPIDEMIOLOGICAL ASPECTS, THERAPEUTICS AT THE CARDIOLOGY CLINIC OF THE FANN HOSPITAL OF DAKAR

Authors:

DIOM MOMAR, DIAGNE PAPA HAMATH, NGAIDE, ALIOU ALASSANE, DIOP S. MOMAR, SY L. SIDY, DIOP B. IBRAHIMA, CISS A GABRIEL

CHU FANN, SENEGAL

English Abstract:

INTRODUCTION: Rheumatic fever is a delayed, non-suppurative complication secondary to an oro-pharyngeal infection caused by group A beta-hemolytic streptococcus. This condition affects different tissues such as the joints and the heart which makes all its gravity. Rheumatic valvular heart disease remains common in Senegal. The lack of early and appropriate management exposes to the risk of serious complications.

METHODOLOGY: We conducted a retrospective study including hospitalized patients from January 2017 to June 2019. The purpose of our study was to report the epidemiologic profile and the results of the management of rheumatic valve disease.

RESULTS: We collected 102 patients hospitalized in the medical cardiology and cardiovascular surgery departments. The average age of our patients was 20.57 years with extremes from 6 years to 64 years. The sex ratio was 1.12. Fifty-six patients were hospitalized for scheduled surgery, 43 for cardiac decompensation and 03 for infective endocarditis.

19.61% had mitral insufficiency, 9.8% mitral narrowing, 9.8% mitral disease, 5.88% aortic insufficiency and 0.98% aortic disease. Polyvalvular involvement accounted for 53.92%, with a predominance of the mitral disease association and aortic insufficiency (32.35%). Tricuspid valve involvement was present in 29.41%.

Seventy-five patients, or 73.5%, had received surgical treatment, including valve replacement in 67.15% of cases (mitral valve replacement: 52.3%; aortic valve replacement: 82%). Plastics accounted for 37.83% (mitral plasty: 44.6%; aortic plasty: 14.3%; tricuspid plasty: 54.6%). Percutaneous mitral commissurotomy was performed in 03 patients (3%).

The medical treatment was for heart failure and infectious endocarditis. The trend was favourable in 70.6% of cases. However, we had noted post-operative complications such as hemodynamic instability, pneumonitis, rhythm and conduction disorders. In non-operated patients, there was persistent heart failure with 29% of deaths.

CONCLUSION: Rheumatic valve disease should be detected early for better management. However, surgical treatment remains an important pillar with the consequence in most cases of life-long anticoagulation in case of mechanical prosthesis hence the importance of the prevention of rheumatic fever.

KEY WORDS: Rheumatic valve disease, plasty, valve replacement.

Submission ID: 843

VASCULAR DYSFUNCTION AND PRECLINICAL CARDIOVASCULAR REMODELING IN RESISTANT UNCONTROLLED HYPERTENSION CHARACTERISED BY CARDIOVASCULAR MAGNETIC RESONANCE AND MULTI-MODAL IMAGING: A CROSS-SECTIONAL STUDY

Authors:

Pheletso Letuka, Petronella Samuels, Stephen Jermy, Hadil Saad, Brian Rayner, Ntobeko Ntusi

Division of Cardiology, Department of Medicine, University of Cape Town and Groote Schuur Hospital, Cape Town; Hatter Institute for Cardiovascular Research in Africa, Department of Medicine, Faculty of Health Science, University of Cape Town, South Africa

English Abstract:

Objective: The cardiovascular phenotype of patients with resistant uncontrolled hypertension (RUH) were compared to patients with resistant controlled hypertension (RCH) and matched controls; using cardiovascular magnetic resonance (CMR) and other imaging modalities.

Background: Resistant hypertension (RH) predisposes patients to cardiovascular complications including chronic kidney disease and stroke.

Methods: 61 participants (30 RUH, 20 RCH and 11 matched controls) underwent blood pressure measurements, CMR, echocardiography, electrocardiography, applanation tonometry and serum biomarker analysis.

Results: Patients with RUH were obese (73% vs 55%, $p=0.01$), with a history of retinopathy (47% vs 20%, $p=0.001$), albuminuria (33% vs 10%, $p=0.002$), myocardial infarction (10% vs 0%, $p=0.009$) and stroke (13.3% vs 0%, $p=0.006$). They had a longer duration of hypertension (10.5 ± 10.7 vs. 3.6 ± 3.4 , $p=0.02$) with treatment

that included an ACE-inhibitor (90% vs. 58%, $p=0.01$). They had higher mean arterial BP (115 ± 17 vs 101 ± 15 mmHg, $p= 0.004$), lower small artery elasticity (4.1 ± 2.1 vs. 6.9 ± 3.6 ml/mmHg $\times 100$, $p<0.001$) and higher systemic vascular resistance (1754 ± 418 vs. 1363 ± 371 dyne \times sec \times cm $^{-5}$, $p=0.002$) compared to patients with RCH. Patients with RUH and RCH compared to healthy controls on echocardiography had increased interventricular septum thickness (1.3 ± 0.20 vs 1.2 ± 0.17 vs 0.93 ± 0.17), left ventricular (LV) posterior wall thickness (1.19 ± 0.20 vs 1.08 ± 0.16 vs 0.8 ± 0.14 , $p<0.001$) and increased deceleration time (200 ± 43.7 vs 192 ± 15.8 vs 167 ± 7.9 , $p=0.02$). On ECG, patients with RUH and RCH had a longer QRS duration (96.11 ± 11.9 vs 95 ± 15.9 vs 84 ± 9.4 , $p=0.03$) and on CMR, they had a higher LV stroke volume (vs 105 ± 26 vs 100 ± 21 vs 84 ± 20 , $p=0.047$), Native T1 molli (1243 ± 44 vs 1236 ± 57 vs 1184 ± 23 , $p=0.002$) and peak systolic circumferential strain rate (-1.3 ± 0.3 vs -1.2 ± 0.2 vs -1.1 ± 0.3 , $p=0.048$).

Conclusion: Vascular remodeling in RUH predates cardiovascular morbidity and can be used as an early indicator of remodeling using multimodal imaging.

Submission ID: 853

LARGE CAMERAL CORONARY FISTULA IN AN INFANT OF THE LEFT MAIN CORONARY ARTERY THAT DRAINS INTO THE LEFT VENTRICLE, ASSOCIATED SECUNDUM ATRIAL, VENTRICULAR SEPTAL DEFECT AND TRICUSPID DYSPLASIA

Authors:

Tamirat Moges, Hayat Ahmed, Azmeraw Gissila
Addis Ababa University, Ethiopia

English Abstract:

Background: Congenital coronary fistulas are uncommon abnormalities communicating the coronary arteries with the cardiac chambers or portion of the systemic or pulmonary circulation. Over 90% of the fistulas drain into the right side of the heart with only 3% terminating in the left ventricle. Tetralogy of Fallot, atrial septal defect, patent ductus arteriosus, ventricular septal defect, and pulmonary atresia with intact ventricular septum are among the associated congenital heart diseases described. Coronary arterial fistulas are usually asymptomatic in the first two decades. Patients with large left-to-right shunts may develop congestive cardiac failure, especially in infancy and occasionally in the neonatal period.

Case presentation: A 5 months old female infant presented with labored breathing and worsening of bluish discoloration of lips and extremities following a prolonged cry. She had a history of breastfeeding difficulty. The mother noticed the bluish discoloration of the lips and extremities at birth. The baby was waisted with a fast heart rate. She had bluish lips and nail beds with clubbed nail beds and toes. She had a holosystolic murmur at the left lower sternal border. Chest x-ray showed a CTR of 66%. Echocardiography and CT angiography showed a large cameral coronary artery fistula involving the left main coronary and left anterior artery that drains into the left ventricular chamber; tricuspid valve dysplasia, secundum ASD, and VSD with the right to left shunt. The patient had a repeated episode of cyanotic spell while crying excessively after a CT angiographic study which leads her to respiratory arrest and death. She was managed as a case of pneumonia and hypoxic spells in ICU before her death.

Conclusion: We are convinced to report the case as it described a rare occurrence of CAF that drains to the left ventricle, unusual presentation with cyanosis instead of congestive heart failure, and the unusual associated CHD, dysplastic tricuspid valve, ASD, and VSD with the right to left shunt.

Submission ID: 879

CAN ALBUMINURIA STATUS PREDICT ABNORMAL LEFT VENTRICULAR FUNCTION IN PATIENTS WITH TYPE 2 DIABETES MELLITUS?

Authors:

Tolulope Taiwo Shogade, Ime Okon Essien, Udeme Ekpenyong Ekrikpo, Idongesit Odudu Umoh, Joseph John Andy
Internal Medicine Department, University of Uyo Teaching Hospital, PMB 1136, Uyo, Akwa Ibom State, Nigeria

English Abstract:

Objective: To determine if albuminuria status in Nigerians with type II diabetes mellitus (T2DM) can predict the presence of abnormal left ventricular diastolic function (LVDF) prior to the onset of overt heart disease.

Methods: A cross-sectional study conducted at the diabetic and cardiology clinics of the University of Uyo Teaching Hospital Uyo, Akwa-Ibom State, Nigeria. Diabetic patients were screened for albuminuria status and echocardiographic indices of left ventricular function were compared among the three groups as well as controls.

Results: 58 normal controls, 50 normoalbuminuric, 64 microalbuminuric and 47 macroalbuminuric T2DM subjects and were recruited for the study. The prevalence of LVDD increased from 17% in controls, 59% in normoalbuminuric, 76% in microalbuminuric to 98% in macroalbuminuric group ($p < 0.001$). LV systolic dysfunction was uncommon among the patients.

Presence of microalbuminuria (OR = 16.27, 95% CI of 1.42-186.58, $p=0.025$), macroalbuminuria (OR =285.12, 95%CI of 7.34-11067.86, $p = 0.002$), age (OR = 1.11, 95% CI of 1.03-1.21, $p= 0.008$) and DM duration (OR = 1.04, 95% CI of 1.02-1.07 $p= 0.001$) were the independent predictors of LVDD among diabetics and controls.

Conclusions: Progressively increasing albuminuria predicts worsening LVDD in Nigerian T2DM patients. Further studies are needed to assess efficacy of interventions and prognostic significance.

Submission ID: 880

PULSELESSNESS IN AN HIV INFECTED ADULT FEMALE: A RARE CASE OF ERGOTISM

Authors:

TOLULOPE TAIWO SHOGADE, ASUKWO ETIM ONUKAK, EFFIONG AUGUSTINE BASSEY, IDONGESIT ODUDU UMOH
UNIVERSITY OF UYO TEACHING HOSPITAL, NIGERIA

English Abstract:

Ergotism is a complication of acute intoxication and/or chronic abuse of ergot derivatives. It expresses itself with symptoms of peripheral vasospasm [1,2].(numbness, tingling, burning pain, pulselessness, gangrene) as well as neurologic (headache, psychosis) and gastrointestinal symptoms (nausea, vomiting, abdominal cramps)[3]. This complication occurs more in patients taking ergot derivatives with certain drugs such as protease inhibitors for different indications[4].

A 37-year-old female was referred to our hospital, after she was managed for hypovolemic shock at the referring centre with intravenous crystalloids and hydrocortisone without improvement. She presented with numbness, pain and coldness of the extremities, nausea, several episodes of vomiting, lethargy and generalized body weakness. Physical examination findings were non-palpable peripheral pulses and unrecordable blood pressure.

Additional history revealed that she recently had a bout of migraine headache for which she ingested a total of 8 tablets of over-the-counter Cafergot (Ergotamine tartrate 1mg + Caffeine 100mg) at a

dose of two tablets twice daily over 2 days with resolution of the headache, but development of multiple symptoms suggestive of drug adverse effects two days later.

She was diagnosed with HIV infection eight years prior and her antiretroviral drugs regimen at presentation comprised (Lopinavir 400mg/Ritonavir 100mg and Abacavir 300mg and Lamivudine 150mg) taken twice daily for the preceding 3 years with undetectable viral load. She had a 2-year history of migraine headaches for which she was treated and recovered completely from.

At presentation, other possibilities such as peripheral arterial disease, thrombosis and vasculitis were all considered. Peripheral arterial disease was not likely due to absence of diabetes, hypertension and dyslipidemia. Thrombosis was excluded by a normal clotting profile, electrocardiography (ECG), echocardiography (ECHO) findings and Doppler scan result, while a normal erythrocyte sedimentation rate (ESR) and absence of purpura or fever excluded a vasculitis.

Emergency Full blood count, Erythrocyte sedimentation rate, electrolytes, urea, creatinine, fasting lipid profile, ECG and 2-D-echocardiography done at presentation were all normal. She was initially managed as a case of anaphylactic shock with intramuscular adrenaline, dopamine infusion and 20mg of oral nifedipine (she took without doctor's instruction).

Submission ID: 878

KNOWLEDGE OF CARDIOVASCULAR RISK FACTORS AMONG RELATIVES OF OUTPATIENTS ATTENDING A TERTIARY CARDIOVASCULAR CENTER IN TANZANIA: A CROSS-SECTIONAL SURVEY

Authors:

Zabella S. Mkojera, Makrina Komba, Smita Bhalia, Henry Mayala, Jalack Millinga, Mohamed Janabi

Jakaya Kikwete Cardiac Institute, Tanzania

English Abstract:

Background: Health literacy on cardiovascular diseases (CVDs) plays an effective role in preventing or delaying the disease onset as well as in impacting the efficacy of their management. In view of the projected low health literacy in Tanzania, we conducted this cross-sectional survey to assess for CVD risk knowledge and its associated factors among patient escorts.

Methods: A total of 1063 caretakers were consecutively enrolled in this cross-sectional study. An adopted questionnaire consisting of 22 statements assessing various CVD risk behaviors was utilized for assessment of knowledge. Logistic regression analyses were performed to assess for factors associated with poor knowledge of CVD risks.

Results: The mean age was 40.5 years and women predominated (55.7%). Over two-thirds had a body mass index (BMI) ≥ 25 kg/m², 18.5% were alcohol drinkers, 3.2% were current smokers, and 47% were physically inactive. The mean score was 78.2 and 80.0% had good knowledge of CVD risks. About 16.3% believed CVDs are diseases of affluence, 17.4% thought CVDs are not preventable, and 56.7% had a perception that CVDs are curable. Low education (OR 2.6, 95%CI 1.9–3.7, $p < 0.001$), lack of health insurance (OR 1.5, 95%CI 1.1–2.3, $p = 0.03$), and negative family history of CVD death (OR 2.2, 95%CI 1.4–3.5, $p < 0.001$), were independently associated with poor CVD knowledge.

Conclusions: In conclusion, despite of a good level of CVD knowledge established in this study, a disparity between individual's knowledge and self-care practices is apparent.

Submission ID: 881

PREVALENCE AND SHORT-TERM PROGNOSTIC IMPLICATION OF RIGHT VENTRICULAR SYSTOLIC DYSFUNCTION IN NIGERIAN-AFRICANS WITH HEART FAILURE SECONDARY TO HYPERTENSION

Authors:

Ayodipupo S. Oguntade, Adewole Adebijoye, Okechukwu S. Ogah, Akinyemi Aje, Moshood Adeoye

University College Hospital, Ibadan, Nigeria and Nuffield Department of Population Health, University of Oxford, UK

English Abstract:

Introduction: Recent evidence suggests that right ventricular systolic dysfunction (RVSD) in patients with heart failure is a powerful prognostic factor and determinant of survival in these patients.

Aim: The aim of this study was to assess the prevalence and short-term prognostic implication of RVSD in Nigerian Africans with heart failure secondary to hypertension.

Methods: One hundred and nineteen (119) patients with heart failure secondary to hypertension were recruited in a prospective longitudinal study. The patients were evaluated clinically, and right ventricular systolic function was assessed with echocardiography using the tricuspid annular plane systolic excursion (TAPSE) and pulsed tissue wave Doppler velocity of the tricuspid annulus (S') while functional status was assessed with the New York Heart Association functional class and the Karnofsky performance status scale. The patients were followed up for six months. The study outcome measures were clinical deterioration, hospitalisation and all-cause mortality.

Results: The mean (SD) age was 57.5 (11.6) years with 66 (55.5%) males and 53 (44.5%) females. The mean duration of heart failure was 23.4 months. RVSD was present in 74 (62.2%) subjects (95% CI: 53.3%, 71.0%). During the follow up period, 44 (37%) had clinical deterioration, 14 (11.8%) were hospitalized, 26 (21.8%) suffered all-cause mortality while the composite of any of the study outcomes was reached in 53 (44.5%) patients. In Kaplan Meier analysis, those with RVSD significantly suffered more clinical deteriorations ($p = 0.02$) and the composite of study endpoints ($p = 0.02$) while RVSD was not significantly associated with hospitalization ($p = 0.21$) and all-cause mortality ($p = 0.10$). In multivariable Cox regression models, RVSD was an independent predictor of clinical deterioration (adjusted HR 2.74; 95%CI: 1.10, 5.78) and showed a marginally significant association with mortality (adjusted HR 2.58; 95%CI: 0.92, 7.20).

Conclusion: RVSD is common in heart failure secondary to hypertension and is significantly associated with increased short-term risk of clinical deterioration.

Submission ID: 869

GENDER DIFFERENCE AND RISK OF MAJOR BLEEDING IN PATIENTS ON ANTI-THROMBOTIC TREATMENT FOR MECHANICAL HEART VALVE PROSTHESIS. ANALYSIS CONDUCTED AT THE SALAM CENTRE FOR CARDIAC SURGERY - EMERGENCY NGO - KHARTOUM, SUDAN

Authors:

Dr Nicoletta Erba, Dr Fadwa Hamuda Mohammed, Dr Abier Sawi Suliman, Dr Daniela Poli, Dr Sophie Testa, Ms Fabiana Ghezze, Mr Luca Rolla, Dr Gennarina Portella, Dr Franco Masini

The Salam Centre for Cardiac Surgery EMERGENCY NGO, Italy

English Abstract:

Background: Anticoagulant therapy with Warfarin exposes the patient to the risk of major bleeding, and consequently, to life-threatening risks, temporary or permanent disabilities and thrombotic risk related to temporary withdrawal of anticoagulant therapy.

Aim: To analyze gender-related risk of major bleeding in patients on Warfarin therapy for mechanical cardiac valve prostheses and operated at the Salam Centre for Cardiac surgery in Khartoum.

Methods: The bleeding events were recorded in the database (Parma GTS) dedicated to anticoagulant therapy, applying the criteria of ISTH. Patients with less than three months of observation were excluded. Patients with intervals between controls longer than 3 months have been referred to as "incompliant". Patients who, despite follow-up calls, had an interval between two INR checks longer than 6 months, are classified as "lost" to follow-up.

Results: The observational period was between August 1, 2018 and September 30, 2019. 3647 patients (M 46.1%), median age 25.7 years, were included in the study. The main differences between male and female were: patients younger than 14 years of age (M 19% - F 16.1% P 0.02), prosthetic valve position (Aortic: M 23.8% - F 7.2% p value =0.000; Mitral: M 40.5%, F 68.4% p value; Mitro-Aortic: M 35.7%, F 24.4% p value). Female patients have a worse Time in Therapeutic Range (TTR) (median F 50% - M 56%), a better compliance to therapy and less instances of loss to follow-up. During the observational period we registered 85 major bleeding episodes (2,16 % p/y), 9 of which were fatal, 16 cerebral, 19 gastrointestinal, and 32 due to menometrorrhagia. At univariate analysis, female patients and associated aspirin treatment were significantly linked with bleeding risk (OR 2.2, 95%CI 1.4-3.4; p value =0.000 and OR 1.8, 95%CI 1.0-3.4; p value =0.05, respectively). When gynaecological bleedings were excluded, women were not at a higher bleeding risk with respect to men (OR 1.2, 95%CI 0.7-1.9; p value =0.5).

Conclusions: women of childbearing age on anticoagulant therapy are particularly exposed to the risk of major predominantly gynaecological bleedings. Avoiding the associated aspirin treatment is therefore particularly advised in women. The use of oral contraceptives could further reduce the risk of bleeding among anticoagulated women.

Submission ID: 863

CONVENTIONAL VERSUS 3D ELECTRO-ANATOMICAL MAPPING AND ABLATION OF PREMATURE VENTRICULAR DEPOLARIZATIONS; EXPLORING THE NEED FOR 3D MAPPING IN LOW INCOME COUNTRIES

Authors:

Mohammed Elalfy, John Zarif, Ahmed Nabil, Rania Samir, Ghada D. Mustafa, Anwer Al-Zurfi, Mervat Aboulmaaty

Ain Shams University, Egypt

English Abstract:

Introduction: It has been demonstrated that catheter ablation is an effective and therapeutic strategy for improving symptoms while simultaneously reducing the burden of premature ventricular depolarization (PVD) in patients with a high burden PVDs. 3D electro anatomical mapping (EAM) and radio frequency (RF) catheter ablation has recently become the standard methods for ablating PVDs, however, in low-resource countries, the use of 3D EAM systems is often restricted due to the lack of financial support.

Aim: The goal of this study is to compare the outcome and success rate of conventional RF ablation compared to RF ablation using 3D EAM in the treatment of PVDs.

Participants & Methods: The current study included 100 patients (48 males, age = 41.31 ± 17.69 years) with structurally normal heart and normal EF > 50%, with PVDs burden greater than 15% (by 24 hour Holter monitor) who were randomly scheduled to conventional Ablation or 3D EAM ablation at Ain Shams University between 2018 and 2020.

Criteria of success were defined as: Acute PVD elimination at the Cath-lab with a 30 minutes waiting period and a decrease of PVD burden to less than 3% at 3-month follow up (recorded by 24 hour Holter monitoring).

Results: Conventional ablation was performed in 68 patients (47%

males, mean age = 39.99 ± 18.8 years), while 32 patients had ablation using 3D system (CARTO n=24, NAVX n=8) (50% males, mean age = 44.1 ± 14.9 years). The success rate was 83 % among 100 patients (45.8% males, median age = 41 (28 – 56) years). In the conventional ablation group the success rate was 85.3% (n=58, 43.1% males, median age = 43 (28 – 54) years) compared to 78.1% in the 3D ablation group (n= 25, 52% males, median age = 37 (30 – 56) years). There was no statistically significant difference regarding success rate between the conventional and the 3D EAM groups.

Using logistic regression analysis, the presence of a pre-QRS signal on the ablation catheter > 33msec, age (<58 years), Out-flow tract location of PVDs, ablation time (≤ 222 seconds) and fluoroscopic time (≤ 47 minutes) predicted success in both groups. In terms of success predictors, there was no statistically significant difference between the conventional and 3D ablation groups.

Conclusion: Regarding ablation of PVDs in structurally normal hearts, Conventional ablation could achieve the same success rate as 3D EAM and ablation.

Submission ID: 868

SURGICAL TREATMENT IN ACTIVE INFECTIVE ENDOCARDITIS. SALAM CENTER FOR CARDIAC SURGERY MANAGEMENT. EMERGENCY NGO. KHARTOUM, SUDAN. 2015 – 2020

Authors:

Dr Eva Maria Reyes Sanchez, Dr Alessandro Mocini, Dr Liliانا Mondazzi, Dr Nihad Tag Elsir Ahmed, Dr Fadwa Hamuda Mohammed, Dr Salvatore Lentini, Dr Gennarina Portella, Mr Luca Rolla, Dr Franco Masini

The Salam Centre for Cardiac Surgery EMERGENCY NGO, Sudan

English Abstract:

The role of surgery in active infective endocarditis has expanded progressively with successful outcomes. Subsequent declines in mortality may be attributed to improvements in management, expeditious surgery in carefully selected patients having also played a major role. At the Salam Center for Cardiac Surgery in Khartoum, Sudan, in a period of 5 years (2015-2020) a total of 4742 patients were admitted and 3200 patients underwent surgery. Patients with active infective endocarditis were 120, representing 3.75%.

An important group was the youngest population: 1 – 14 years range represented 24.1% of the overall number, followed by 15 – 25 years (34.1%), 26 – 40 years (31.6%), 41 - 65 (9.1%) 65+ (0.8%). Most patients were male, representing 62.5% of the total number, and Sudanese patients were the majority, 85% compared to 15% foreigners. Mortality after surgery was low, only 5%. In contrast to large randomized studies, the mortality in active infective endocarditis ranges from 6% to 25%.

Among operated patients, Mitral and Aortic Valve Replacement subjects represented 38.2% of cases, followed by Isolated Mitral Valve replacement with 29.5%, triple valve surgery Mitral and Aortic Valve Replacement plus Tricuspid Valve Repaired with 14.7%, Mitral Replacement with 10.4%, and Isolated Aortic Valve Replacement with 5.2%. There was also a case of Aortic Valve Replacement with Tricuspid Valve Repair, 0.8% of cases.

The discussion of this topic is interesting due to the characteristics of patients at The Salam Centre for Cardiac Surgery, most of whom are affected by rheumatic heart disease (95%) followed by a minority of congenital heart diseases with infective endocarditis (5%).

In conclusion, the surgery has an established role in the management of infective endocarditis across a wide range of patients, a role that appears poised to increase as the complexity of patients with this condition rises and the benefits of earlier surgery emerge. Nevertheless, decision making in individual patients will remain difficult, with the best outcomes obtained as a result of expert multidisciplinary collaboration between the cardiologist, microbiologist, and cardiac surgeon.

Submission ID: 883

A CASE REPORT OF COARCTATION OF THE AORTA IN THE WAKE OF COVID-19 COMPLICATING TO BRAIN ANEURYSM IN TANZANIA, A DIAGNOSTIC AND MANAGEMENT CHALLENGE

Authors:

Reuben Mutagaywa, Mark Mayala, Zalha Nuhu, Justus Ishengoma, Ally Qassim, Henry Mayala, Mohammad Bakari

Muhimbili University of Health and Allied Sciences (MUHAS), Department of Internal Medicine, Dar es salaam, Tanzania

English Abstract:

Background: Coarctation of the Aorta (CoA) is a congenital malformation of the aorta. Asymptomatic refractory hypertension can be its only form of presentation, which usually leads to its late diagnosis and consequent complications.

Case presentation: We report a late diagnosis of secondary hypertension due to CoA in a 19-year-old male, which complicated to a tip basilar aneurysm. Our patient was relatively asymptomatic until he presented with severe headache and palpitations in his second decade of life. For over 5 years he was managed as a case of hypertension in peripheral facilities, despite its refractoriness to therapy. When he arrived at a tertiary level facility (Muhimbili Orthopaedic Institute, in Dar es Salaam, Tanzania) he underwent investigations, which confirmed a diagnosis of (CoA) and basilar aneurysm. He is currently on medical management but with no improvement of the hypertension. He is waiting for a percutaneous interventional therapy, which is not available in the country. The plan is to refer the patient to India. However, he is incapable of paying for himself and the current supporter is undecided on whether to cover the anticipated costs or not. The other option is to secure Government's support. Unfortunately, all these plans are further frustrated by travel restrictions due to the ongoing COVID-19 pandemic. Consent to publish this case was obtained from the patient.

Conclusion: This interesting case emphasizes on the need for Clinicians at all levels to always bear in mind the possibility of secondary hypertension in all young patients presenting with refractory hypertension, and that a proper cardiovascular examination must be conducted. Additionally, management challenges in the presence of constrained resources and the on-going COVID-19 pandemic have been highlighted.

Submission ID: 870

OUTCOMES AND COMPLICATIONS OF PERIPARTUM CARDIOMYOPATHY IN AFRICA: A SYSTEMATIC REVIEW AND META-ANALYSIS

Authors:

Julian Hoevelmann, Elani Muller, Karen Sliwa, Michael Böhm, Mark E Engel, Charle Viljoen

Cape Heart Institute, Faculty of Health Sciences, University of Cape Town, Cape Town, South Africa, Division of Cardiology, Groote Schuur Hospital, Faculty of Health Sciences, University of Cape Town, Cape Town, South Africa

English Abstract:

Background: Peripartum cardiomyopathy (PPCM) is a form of dilated cardiomyopathy, which develops towards the end of pregnancy and up to five months postpartum. PPCM is a common cause of heart failure in Africa. Descriptions of outcome of PPCM appear to be heterogenous and differ significantly between countries and ethnicities. Adverse outcomes associated with PPCM include decompensated heart failure, thromboembolism, arrhythmias and death.

Objectives: Current knowledge of outcomes in PPCM in Africa is based mainly on single-centre studies across the continent. We intended to summarise the reported outcomes and complications of PPCM in Africa by means of pooled prevalence estimates.

Methods: A comprehensive, systematic search of all articles published between 2000 (year of the first universal definition of PPCM) and June 2021 was performed to identify articles reporting on 6- and/or 12-month outcome and complications of patients with PPCM in Africa.

Results: Our search strategy identified 981 articles, of which 16 studies fulfilled the eligibility criteria, and which included a total of 1476 patients across 13 African countries. The mean age was 28.8 (95% CI: 25.5-32.1) years and BMI 24.2kg/m² (20.9-27.5). Most patients were multiparous (≥ 2) (74.8% [71.2-78.2]) and 61.6% (50.3-72.2) presented with NYHA functional class III/IV. Overall treatment included beta-blockers (58.6%), ACE-I/ARBs (75.3%), MRA 74.4%, diuretics (94.9%), digitalis (84.9%) and bromocriptine (28.3%). Mean left ventricular ejection fraction (LVEF) was 29.2% (24.7-33.8) at time of diagnosis and improved by 15.4% (14.1-16.7) at 6 months and 17.5% (13.7-21.7) at 1 year. Recovered LV function (LVEF $\geq 50\%$) was reported in 37.1% (24.8-50.3) at 6 months and 51.5% (31.1-71.7) at 1 year. All-cause mortality was 10.9% (7.6-14.6) and 15.2% (9.8-10.6) at 6 and 12 months respectively. Arrhythmias were underreported. LV thrombus occurred in 9.9% (5.4-15.5) of patients at time of diagnosis, whereas all-cause embolic events (stroke, arterial embolism, deep vein thrombosis or pulmonary embolism) was reported in 3.1% (1.7-4.9).

Conclusion: To the best of our knowledge, this is the largest description of complications and outcome reported for women with PPCM in Africa. We highlight that PPCM is associated with significant all-cause mortality in Africa. Only half of patients with PPCM recovered their LV function one year after diagnosis. LV thrombus and thromboembolic events were common complications.

Submission ID: 874

DRIVERS OF COMPLIANCE WITH ANTICOAGULANT THERAPY IN RHEUMATIC HEART DISEASE PATIENTS WITH MECHANICAL HEART VALVES IN SUDAN

Authors:

Mr Niccolò Parrino, Dr Nicoletta Erba, Ms Maaza Adam Ibrahim Mohamed, Dr Gennarina Portella, Mr Luca Rolla, Dr Franco Masini, Ms Nisreen Seliman Ahmed Manzoul

The Salam Centre for Cardiac Surgery EMERGENCY NGO, Sudan

English Abstract:

Background: Rheumatic Heart Disease (RHD) affects millions of people yearly, especially in developing countries. Surgery is the only solution when the patient is symptomatic. After surgery, lifelong anticoagulant therapy is required to decrease the risk of hemorrhagic and thrombotic events. EMERGENCY's Salam Centre for Cardiac Surgery performs surgery on RHD patients and monitors them to ensure that the patients' levels of compliance are satisfactory. However, the high levels of non-compliance to therapy are profoundly worrying.

Aim: This is a cross-sectional observational study that aims to identify the most relevant demographic and socioeconomic factors that affect compliance with anticoagulant therapy. Identifying the kind of patient who is most prone to have poor compliance levels with the therapy might result in a more efficiently targeted monitoring effort.

Methods: The population of interest was composed of patients who underwent mechanical valve replacement surgery at the Salam Centre. In the linear regression models devised for this study, compliance levels were proxied by patients' TTR (Time in Therapeutic Range) values. TTR expresses the percentage of time a patient exhibited satisfactory coagulation levels during a fixed

period of time, and is thus an excellent candidate when trying to explain compliance through a continuous variable. Patients' data was collected through phone call and face-to-face interviews. A questionnaire was specially designed to be used as guideline by the surveyors, with the aim to collect socioeconomic, demographic, and medical information.

Findings: Our study finds that a patient's compliance level, or more precisely TTR, is significantly associated with age, region of origin, internet access, marriage status, number of children to take care of, distance from health care facility, use of traditional medicine, type of transport, medical insurance, employment status, and the number of rooms in the patient's place of residence. Differences in the significance of some regression coefficients were found when distinguishing between the patients' modes of contact used to interact with the Salam Centre.

Conclusions: Developing monitoring regimes that are designed to deal with different kinds of patients in different manners, according to the particular level of attention that they require, might improve the overall level of compliance with anticoagulant therapy.

Submission ID: 893

CONTRIBUTION OF THERAPEUTIC EDUCATION IN TENSIONAL CONTROL IN A CARDIOLOGICAL ENVIRONMENT: PROSPECTIVE, LONGITUDINAL AND COMPARATIVE STUDY

Authors:

Aw Fatou, Bodian M, Mingou J, Ndiaye G, Diouf MT, Diao M
université cheikh Anta diop, Senegal

English Abstract:

Introduction: Blood pressure control remains a difficult goal to achieve especially in sub-Saharan Africa. Therapeutic patient education (TPE) is a central means to achieve blood pressure control. It enables people with hypertension to acquire skills to manage their disease so that they can actively participate in the management of their disease. The general objective of our study was to assess the contribution of therapeutic education on the control of blood pressure levels in hypertensive patients monitored and treated for at least three (03) months in cardiology.

Methodology: The study was carried out in the cardiology department of the Aristide Le Dantec University Hospital. This was a longitudinal and comparative study over a period of six (06) months, going from October 2019 to April 2020 in hypertensive patients followed for at least 03 months for whom a TPE program was implemented. The parameters studied were socio-demographic data, other diseases associated with hypertension, clinical signs, therapeutic aspects, level of knowledge about hypertension and blood pressure control.

Results: A total of 84 patients were included and had completed the education program. The study population was predominantly female and represented 66.67%, or a sex ratio M / F of 0.5. The mean age of the population was 58.87 ± 10.28 years. The mean duration of hypertension was 6.69 years. Smoking was noted in 15.48% of cases, diabetes in 17.85% of cases and dyslipidemia in 48.81%. The patients were in 63.09% sedentary, 37% were overweight and 21.42% were obese. Before therapeutic education, the mean systolic blood pressure was $153.33 \text{ mmHg} \pm 24.65$. The mean diastolic blood pressure was $94.69 \text{ mmHg} \pm 15.31$. The treatment adherence assessed by the Girend test noted that 63.10% of people had a minimal problem with adherence, 19.05% of cases were poorly observant and in 17.86% compliance was good. The assessment of the level of knowledge about hypertension found a good definition of hypertension in 3.57% of cases; knowledge of hygiene and dietetic measures in 69.05% of cases; knowledge of the importance of treatment and adherence in 28.57% of cases; and knowledge.

Submission ID: 885

IMPACT OF COVID-19 ON EMERGENCY AND CARDIAC CATHETERIZATION SERVICES IN A MAJOR TERTIARY CARDIAC CENTER IN KHARTOUM

Authors:

Mujahed M I Mohammed, Ahmed A A Suliman
Shab Teaching Hospital, Sudan

English Abstract:

Introduction: Shab Teaching Hospital is a tertiary referral center for cardiology and cardio-thoracic surgery, located in Khartoum, the capital of Sudan. It provides emergency room (ER) services to cardiac patients as well as being a nationwide major referral center. Furthermore, it has a very active cardiac catheterization laboratory (cath lab) performing coronary and valvular interventions as well as implanting cardiac devices.

The COVID-19 pandemic had major impact on medical services in the country, and hospitals had to cope with unprecedented challenges. The first COVID-19 case was confirmed in Sudan on the 13th of March, 2020 and that was followed by major disruptions in the healthcare services especially for non-covid emergencies, a phenomenon seen worldwide.

Objectives: To study the impact of COVID-19 on the emergency and cardiac catheterization services especially for acute MI (acute myocardial infarction)

Methods: This a retrospective hospital based study conducted at Shab Teaching Hospital. Data on total ER visits and MI admissions were collected for the months of April, May and June for the years 2019, 2020, and 2021. The volume of coronary angiographies and percutaneous coronary interventions for MI were also collected for the same periods.

Results: The average monthly ER visits (April, May and June) for the years 2019, 2020 and 2021 were 24,252, 25,548 and 31,889 per month respectively. Average monthly admissions for MI for 2019, 2020 and 2021 were 1603, 965 and 2,251 per month respectively .

During the months of April , May and June of 2019, 2020 and 2021 the average number of diagnostic coronary angiograms, were 495, 186, and 408 per month respectively whereas average PCI volumes were 195,109, and 164 per month respectively .

Conclusion: Cardiac emergency and interventional services at Shab Teaching hospital continued even at the height of the epidemic . Significant drop in emergency department visits was seen for MI in 2020 followed by a strong rebound and increase from pre-COVID 19 level in 2021. This may represent a delayed effect of patients avoiding ER visits during the peak of the epidemic.

Regarding cardiac catheterization volumes and PCI for MI, there was also a significant drop in 2020 with partial rebound in 2021.

Submission ID: 876

BURDEN AND CORRELATES OF COGNITIVE IMPAIRMENT AMONG HYPERTENSIVE PATIENTS IN TANZANIA: A CROSS-SECTIONAL STUDY

Authors:

Makrina Komba, Zabella S. Mkojera, Lucy Mgopa, Jalack Millinga, Smita Bhalia, Salma Wibonela, Henry Mayala, Mohamed Janabi
Jakaya Kikwete Cardiac Institute, Tanzania

English Abstract:

Background: The evolution of cognitive impairment of vascular origin is increasingly becoming a prominent health threat particularly in this era where hypertension is the leading contributor of global disease burden and overall health loss. Hypertension is associated with the alteration of the cerebral microcirculation coupled by

unfavorable vascular remodeling with consequential slowing of mental processing speed, reduced abstract reasoning, loss of linguistic abilities, and attention and memory deficits. Owing to the rapidly rising burden of hypertension in Tanzania, we sought to assess the prevalence and correlates of cognitive impairment among hypertensive patients attending a tertiary cardiovascular hospital in Tanzania.

Methodology: A hospital-based cross-sectional study was conducted at Jakaya Kikwete Cardiac Institute, a tertiary care public teaching hospital in Dar es Salaam, Tanzania between March 2020 and February 2021. A consecutive sampling method was utilized to recruit consented hypertensive outpatients during their scheduled clinic visit. General Practitioner Assessment of Cognition (GPCOG) Score was utilized in the assessment of cognitive functions. All statistical analyses utilized STATA v11.0 software. Pearson Chi square and Student's T-test were used to compare categorical and continuous variables respectively. Logistic regression analyses were used to assess for factors associated with cognitive impairment. Odd ratios with 95% confidence intervals and p-values are reported. All tests were 2-sided and $p < 0.05$ was used to denote a statistical significance.

Results: A total of 1201 hypertensive patients were enrolled in this study. The mean age was 58.1 years and females constituted nearly two-thirds of the study population. About three quarters had excess body weight, 16.6% had diabetes, 7.7% had history of stroke, 5.7% had heart failure, 16.7% had renal dysfunction, 53.7% had anemia, 27.7% had hypertriglyceridemia, 38.5% had elevated LDL, and 2.4% were HIV-infected. Nearly two-thirds of participants had uncontrolled blood pressure and 8.7% had orthostatic hypotension. Overall, 524 (43.6%) of participants had cognitive impairment. During bivariate analysis in a logistic regression model of 16 characteristics, 14 parameters showed association with cognitive functions. However, after controlling for confounders, multivariate analysis revealed \leq primary education (OR 3.5, 95%CI 2.4-5.2, $p < 0.001$), unemployed state (OR 1.7, 95%CI 1.2-2.6).

Submission ID: 882

HISTOPATHOLOGICAL EVALUATION OF CHRONIC RHEUMATIC MITRAL VALVE STENOSIS: THE ASSOCIATION WITH CLINICAL PRESENTATION, PATHOGENESIS AND MANAGEMENT AT A NATIONAL CARDIAC INSTITUTE

Authors:

Reuben Mutagaywa, Amos Mwakigonja, Pilly Chillo, Advera Ngaiza, Moses Byomuganyizi, Maarten Cramer, Gideon Kwesigabo, Appolinary Kamuhabwa, Lulu Fundikira, Steven Chamuleau

School of Medicine, Muhimbili University of Health and Allied Sciences & Faculty of Medicine, Division of Heart and Lung, Department of Cardiology, University Medical Centre Utrecht, Tanzania & Netherlands

English Abstract:

Aims: The histopathology of mitral valve (MV) tissues have been previously reported in necropsy and retrospective studies. We prospectively studied the histopathological changes in rheumatic mitral stenosis using advanced histologic techniques and corroborated these with clinical presentation, disease pathogenesis, and management.

Methods: Surgically excised rheumatic stenotic MV tissues from 54 Tanzanian patients were studied. These were examined using routine (hematoxylin-eosin) staining, histochemistry (von Kossa staining), and immunohistochemistry (CD3, CD20, CD68, and CD8).

Results: The median (range) age of the patients was 39 (14 – 57) years with a female 34 (63%) predominance. With hematoxylin-eosin, 37 (68.5%) specimens showed fibrinoid degeneration (FD), 44 (81.5%) polymorphonuclear leucocytes (PMNL)/lymphocytes, 6 (11.1%) Aschoff nodules, 30 (55.6%) calcification, and 39 (72.2%) fibrosis. Thirty-five (64.8%) specimens were positive to von Kossa. The proportions of specimens positive for CD3, CD20, CD68, and CD8-staining cells were 46 (85.2%), 35 (64.8%), 39 (72.2%), and 8 (14.8%)

respectively. Apparently, valvular calcium was high among: older patients, males and those with higher trans-MV gradient. A statistically significant association existed between the degree of inflammatory cellular infiltration and valvular calcification as well as between the presence of FD and recent rheumatic fever, PMNL/lymphocytes infiltrate and disease of < 10 years, and fibrosis and the absence of atrial fibrillation. C-reactive protein and anti-streptolysin titres were statistically significantly high in both CD20 and CD8 staining cells.

Conclusions: The apparently high MV calcium level among older patients, males, and those with higher trans-MV gradient; the association between cellular infiltration with valvular calcification; and the association between clinical parameters with histopathological-immunohistochemical studies provides new insight to disease presentation. Our findings compare well with those from other countries suggesting similar pathogenesis and thus intervention modalities. This is the first study on MV histopathology to be reported from Africa.

Submission ID: 892

TAKOTSUBO CARDIOMYOPATHY (TTS) IN AN AFRICAN LADY WITH HYPOPITUITARISM

Authors:

Dr Nafisa Elsammani, Dr Ahmed Suliman

Internal Medicine Consultant; General cardiologist Shab Teaching Hospital. Assistant Professor of Medicine University of Elneelin, Sudan

English Abstract:

Introduction: Takotsubo cardiomyopathy (TTS), introduced by Sato and Dote in 1990 and 1991 respectively as left ventricular silhouette during systole in 5 patients presenting with myocardial infarction without obstructive coronary artery disease. Since then it has been recognized in almost all countries of the six continents & reported in a variety of races but no published reports in Africa. Herein, we present the first African case with associated hormonal dysfunction.

Case presentation: A 40 years old female with no cardiac background came to emergency department (5th July 2019) with intermittent, sharp atypical chest pain, palpitation & presyncope for 3 days. Physical examinations; BP: 110/ 62 mmHg (lying) & 95/60 mmHg (standing); heart rate: 62 beats per minute. Dry skin, periorbital puffiness, loss of eyebrows hair and edema of hands.

Initial electrocardiogram showed sinus rhythm, prolonged QT interval (QT & Qtc 560/544 ms respectively); widespread deep inverted T waves. First troponin 0.29 ng/ml rise to 1.05 ng/ml at 6 h (Normal less than 0.01ng/ml). Complete blood counts revealed microcytic hypochromic anemia, bleeding /metabolic panel are within normal limits. Echocardiogram showed severe hypokinesia of anteroseptal wall with apical ballooning. Provisional diagnosis was non-ST elevation myocardial infarction. Received management accordingly and prepared for coronary angiogram.

Sixteen hours later, normal coronary arteries found with hyperdynamic basal segments contraction and systolic apical ballooning in LV angiography.

Further workup; normal lipid panel ; elevated thyroid stimulating hormone (TSH) at 11 uIU/ml {Normal 0.3-5uIU/ml} with low free T3/ T4, low 0800 am cortisol level 0.48 ug /dl {Normal 3.7 – 19.4ug /dl} & adrenocorticotropic hormone (ACTH) <1.0 pg/mL {Normal 7.2-63 pg/ml}. Empty sella with extreme loss of anterior pituitary parenchyma seen on brain MRI.

Hospital course was uneventful; started on steroid then thyroid replacement therapy as well as lisinopril 2.5 mg and bisoprolol 2.5mg. The later was withhold due to bradycardia. LV systolic function improved with normalization of contractility over 4 weeks on serial echocardiogram. Outpatients follow up; asymptomatic and stable; recovery of LV systolic function which confirmed by angiogram.

Conclusion: Case highlight possibility of TTS as cause of MI in non-obstructive CAD in this part of the world; we should be aware of complex associations.

Submission ID: 886

LOW COST EQUIPMENT AND SHORT DURATION PROGRAM ARE NOT BARRIERS TO GOOD OUTCOMES OF CARDIAC REHABILITATION IN SENEGALESE PATIENTS WITH CORONARY ARTERY DISEASE

Authors:

KA Mame Madjiguéne, Waly Niang MBOUP, Serigne Cheikh Tidiane NDAO, Sénankpon Paterne Aymard Abadassi, Djibril Marie BA, Khadidiatou DIA, Pape Diadie FALL, Mouhamed Cherif MBOUP
Hôpital principal de Dakar, Senegal

English Abstract:

Cardiac rehabilitation is still underused in Africa, despite its cost effectiveness widely demonstrated around the world.

Aim: To evaluate the results of a cardiac rehabilitation program in the first Senegalese outpatient center in low resource context.

Patients and method: We carried out a prospective and interventional study. It compared in one hand a group of coronary patients at baseline and after 6 months of our rehabilitation program and in the other hand a control group of patients not enrolled in rehabilitation.

Results: We included 70 patients (30 in the rehabilitation group and 40 in the control group). After rehabilitation, the functional capacity improved: 6.99 ± 2.9 Mets at M0 vs 8.8 ± 2.23 Mets at M6, $p = 0.0001$. Patients of intervention group significantly increased motivation to lifestyle changes and knowledge about their disease. We found better control at 6 months of hypertension (84.50% vs 33.70%, $p = 0.003$), diabetes (70.00% vs 26.70%, $p = 0.0042$), LDL cholesterol (33.00% vs 5.00%, $p = 0.002$) in the group « Rehabilitation ». Prevalence of psychosocial issues like anxiety and depression decreased in intervention group: 50.00% at M0 to 23.33% at M3 ($p = 0.021$), then 30.00% at M6 ($p = 0.18$). Return to work and resuming sexual activity were not significantly different.

Conclusion: Comprehensive cardiac rehabilitation program, with low cost equipment in a short duration, could have real benefits in the management of coronary artery disease by reducing anxiety and depression, improving treatment compliance, control of cardiovascular risk factors, lifestyle changes and disease knowledge.

Submission ID: 888

PATIENTS ADMITTED FOR STEMI: SHORT AND LONG-TERM PROGNOSIS: INTRAHOSPITAL AND 12MONTH RESULTS

Authors:

AZZOUZ ABDELMALEK, AIT MOKHTAR OMAR, KARA MAAMAR, AZAZA ADEL, GRINE BILAL, SIK AREZKI, BEDJAQUI ALI, SALEM MOHAMED AMINE, SAIDANE MOURAD, MERAD BOUDIA KHEIREDDINE, BENKHEDDA SALIM

Cardiology department Mustapha Hospital, Algeria

English Abstract:

Purpose: To assess prognosis by determining the rate of major adverse cardiovascular events (mortality, cardiogenic shock, heart failure, recurrence of ACS, stroke, major bleeding, stent thrombosis, severe rhythm disorders -ventricular fibrillation, ventricular tachycardia-)

Methods: Prospective study including all patients admitted in the cardiology department for STEMI consenting to participate in the study, from January 01st, 2018 to July 31st, 2019 with a 12-month follow-up.

Results: 257 patients were included. Sex ratio was 5,9; The mean age was 59,9 years; 42,4% were hypertensive; 40,4% diabetic, smoking found in 40% and obesity in 16,5%. On admission, the

KILLIP class ≥ 2 was found in 9,8% of patients ; 3,5% of patients presented a syncope and only 23,7% were transferred to our center by a medicalized ambulance. The average times delays to treatment were extended: Pain-FMC: 345minutes. FMC-PPCI: 161minutes. Pain-PPCI: 523 minutes.

23.7% of patients were revascularized during weekends or public holidays, 43.5% were revascularized during non-working hours (6 p.m. to 6 a.m). 95% of patients underwent coronary angiography with stenting in 83.3% of cases by radial arterial approach in 98.4%. Thromboaspiration used in 14.3% of cases. The LAD was more affected in 68.3% of cases, then RCA in 22.7%, CX in 7.8%, LM in 1.2% of cases.

Reperfusion was obtained in 77.5% of cases (ST regression more than 50% at 90 minutes). The localization of STEMI was anterior in 60.1% of cases, inferior in 32.5%. The mean LVEF was 45.6%. Recommended therapies were prescribed in more than 84%.

- hospital results: MACE rate: 17,5%. $p_0 = 0.175$; 95% CI: 0.164 ± 0.036 . Mortality rate was 8,9%. 10,1% of patients presented a heart failure. Cardiogenic shock occurred in 8,2% of cases. Occurrence of VT / VF in 4,3%. Stroke in 2,3%. Recurrence of ACS in 2,3%. Stent thrombosis in 1,2%.

At 12 months: MACE rate was 12,5%. $P_0 = 0,125$ (95% CI: $0,125 \pm 0,045$). Mortality rate was 3,5%. Heart failure occurred in 5,3%. Stroke occurred in 1,9% of cases and recurrence of ACS in 1,9%. Stent thrombosis in 1%. Major Bleeding in 1%. Cardiogenic shock in 0,5%.

Conclusion: STEMI remains a serious pathology despite advances in pharmacology and interventional cardiology. The reduction of its complications requires the improvement of the patient care pathway, reduction of the ischemic delay with adequate management of cardiogenic shock, with the reinforcement of preventive measures.

Submission ID: 894

BURDEN, PATTERN AND CORRELATES OF NCDs RISK FACTORS AMONG RELATIVES OF PATIENTS WITH CARDIOVASCULAR DISEASES: A CROSS-SECTIONAL STUDY

Authors:

Zabella S. Mkojera, Makrina Komba, Smita Bhalia, Jalack Millinga, Henry Mayala, Mohamed Janabi

Jakaya Kikwete Cardiac Institute, Tanzania

English Abstract:

Background: Previously regarded as diseases of affluence, non-communicable diseases (NCD) are rapidly emerging in the resource-constrained world which harbors a disproportionate burden (80%) of NCD-related deaths. As the NCD epidemic intensifies, the importance and role of contextually relevant local research in informing policy and practice is critical. In this community-based study, we extensively explored the prevalence and correlates of prominent risk factors of NCDs.

Methods: A cross-sectional survey was conducted between December 2019 and February 2020 at Jakaya Kikwete Cardiac Institute. A consecutive sampling method was utilized to recruit consented individuals who escorted known patients with CVD for a scheduled clinic visit. A structured questionnaire bearing questions pertaining to sociodemographic and clinical characteristics was utilized and measurement of key vitals assumed standard universal methods. All statistical analyses were performed by STATA v11.0 software. Summaries of continuous variables are presented as means (\pm SD) and categorical variables are presented as frequencies (percentages). Categorical and continuous variables were compared using the Pearson Chi square test and student's T-test respectively.

Results: The mean age was 40.5 years and females constituted nearly 56% of the study population. Over one-third of participants had attained at most primary education and over-two thirds were married. Over three-quarters of participants had a regular income generating activity and just over a third had health insurance. About

41% of participants had a perception of being in good health, however, nearly 55% had never had a health check-up in their life time. With regards to NCD risks; over two-thirds (66.8%) had excess body weight, 18.5% were alcohol drinkers, 3.2% were current smokers, 17.8% reported a regular healthy eating, and 47% were physically inactive. About 29% of participants had elevated blood pressure and 4.1% were diagnosed with diabetes mellitus.

Conclusions: A sizeable proportion of relatives of patients with established CVD in this present study exhibited NCD risk factors at variable magnitudes. In view of these findings, interventions tailored to the modifiable determinants of overweight coupled with development of community-based programs influencing dietary patterns and physical activity are pivotal in slowing down this mounting epidemic.

Submission ID: 906

INDICATIONS, TYPES OF INOTROPES AND CLINICAL OUTCOMES IN ACUTE DECOMPENSATED HEART FAILURE (ADHF) PATIENTS REQUIRING INOTROPIC THERAPY IN MAJOR TERTIARY HOSPITAL IN SUDAN

Authors:

Abeer Mohammed Salih Mohammed, Nissreen Elsayed Mohamed Abdelsalam, Islam Abdelhakam Taha Abdelhakam, Ahmed A A Suliman, Nafisa Omar Elsammani Elsheikh

Shab Teaching Hospital, Sudan

English Abstract:

Introduction: Shab Teaching Hospital (STH) is a tertiary hospital located in Khartoum the capital of Sudan. It delivers many services for cardiology and cardiothoracic surgery. It has 280 total beds with 18 beds in high dependency units.

Recurrent hospital admission is a hallmark of heart failure (HF) and is frequently associated with hemodynamic instability necessitating inotrope use (2). Majority of patients admitted to STH (73%) have an element of ADHF.

Objective: To assess indications, types of Inotropes, and clinical outcomes of HF patients requiring inotropes.

Methods: This is a retrospective hospital based study of all ADHF patients admitted to STH who required inotropes in the HDU from July 2019 to July 2021. Demographic, clinical and biochemical data were collected and analyzed using SPSS version 20.

Results: A total of 124 patients were included (mean age of 48±18 year and M: F ratio of 1.2:1). Etiology of ADHF was Non-ischemic dilated cardiomyopathy (NIDCM) in 51%, Ischemic cardiomyopathy (ICM) in 23%, Valvular heart disease (VHD) in 16%, Peripartum cardiomyopathy (PPCM) in 6% and others (4%). Indications for inotropes were low blood pressure defined as Mean arterial pressure < 65 mmHg in 94% of cases, tissue hypoperfusion in 51% and refractory heart failure in 4%. The registered inotropes in Sudan Dobutamine (DOB), Dopamine (DA), Noradrenaline (NA) and Adrenaline, were used in 77%, 30%, 31%, and 0.8% of patients respectively, with 34% of patients requiring more than one inotrope and 55% of patients received inotropes for more than 72 hours. Seventy percent of patients had sepsis requiring IV antimicrobial therapy at admission or during course of HDU stay. From total number of patients, 48 patients (39%) improved and discharged from the HDU, 69 patients (57%) died and 7 patients (6%) discharged against medical advice or referred to another institute. No significant correlation was found between mortality and use combination inotropes or prolonged use of inotropes > 72 hours (P.value; 0.133 and 0.143 respectively.)

Conclusion: ADHF requiring inotropic therapy had grave in-hospital prognosis. The major etiology was NIDCM, followed by ICM and VHD. The widely used inotropes were DOB, DA, and NA. Majority of patients had sepsis requiring intravenous antimicrobial therapy. A further prospective study with adequate sample is needed to investigate the correlation between inotropic type, duration of therapy and mortality.

Submission ID: 896

A CASE SERIES OF PSYCHOLOGICAL DISTURBANCES FOLLOWING IMPLANTATION OF CARDIAC DEVICES: EXPERIENCE FROM JAKAYA KIKWETE CARDIAC INSTITUTE

Authors:

Lucy Mgopa, Smita Bhalia, Zabella Mkojera, Makrina Komba, Henry Mayala, Mohamed Janabi

Muhimbili University of Health and Allied Sciences, Tanzania

English Abstract:

Background: Owing to their attributable morbidity, mortality, poor health-related quality of life and high cost of healthcare, cardiac rhythm disorders comprise an important epidemiological and public health problem worldwide. As the global population ages, inevitably cardiac pacing procedures are rising to keep pace with the increasing incidence of bradyarrhythmias. The efficacy of implantable cardiac devices is well established, but recipients may have poor psychosocial adaptation leading to the development or exacerbation of a wide spectrum of mental disorders ranging from anxiety to suicidality.

Case presentation: Six individuals aged between 58 and 83 years presented to Jakaya Kikwete Cardiac Institute (JKCI) with clinical conditions warranting implantable cardiac device insertion. All six had no prior history of mental illness. One presented with symptoms suggestive of psychological disturbance pre-procedure while the other five exhibited symptoms post implantation. After thorough psychiatric reviews; organic brain syndrome, anxiety disorder, brief psychotic disorder, adjustment disorder, major depressive disorder and suicidality were the diagnoses reached for the respective cases. Five individuals were successfully channeled for the appropriate medical psychotherapy while the case with suicidality died few hours following the attempt.

Conclusion: This case series illustrates variable consequences of poor psychological adaptation to implantable cardiac devices, and it underscores the importance of continued psychological evaluation to such patients. Routine mental status assessment is paramount to providing timely psychological intervention with resultant better clinical outcomes and improved health-related quality of life pre and post implantation.

Submission ID: 907

A TETRAD OF PARACHUTE MITRAL VALVE, SUPRAVALVULAR MITRAL RING, PATENT DUCTUS ARTERIOSUS AND VENTRICULAR SEPTAL DEFECT IN A NIGERIAN MAN: A CASE REPORT

Authors:

Okechukwu S. Ogah, Christopher O. OSAGIE, Akinyemi Aje, Adewole A. Adebisi, Abiodun M. Adeoye, Olulola Oladapo, Bosede E. Adebayo, Adeola P. Duduyemi

Cardiology Division, Department of Medicine, University College Hospital, Ibadan, Nigeria

English Abstract:

Supravalvular mitral ring (SMR) rarely occurs as an isolated defect. It commonly co-exist with other left sided obstructive lesions (Shone complex) and less commonly with a ventricular septal defect (VSD). We report an unusual co-existence of SMR with a left sided obstructive lesion as well as VSD and a patent ductus arteriosus in a 25-year-old Nigerian man who presented with differential limb clubbing and cyanosis.

Submission ID: 890

CHILD HEART FAILURE: DIAGNOSTIC, ETIOLOGICAL AND EPIDEMIOLOGICAL ASPECTS IN THE CHILDREN'S HOSPITAL OF DIAMNIADIO (SENEGAL)

Authors:

LEYE MOHAMED M C B OMAR LEYE, BASSE IDRISSE, GODONOU ROSETTE, DESIRE ALAIN AFFANGLA, ALI SIBABI, DIABY FALIKOU
Unit of training and research in Health Sciences, University Iba Der THIAM of Thies, Senegal

English Abstract:

Introduction: Cardiac failure represents an important cause of morbidity and mortality in children. The authors had as an objective, to report the child epidemiological and etiological characteristics of heart failure (CHF) in Senegal.

Patients and Methods: This was a retrospective study conducted at the Children's Hospital of Diamniadio (HED) from 01-01-2016 to 31-12-2017. Children aged 0-15 with heart failure syndrome and confirmed by cardiac Doppler ultrasound were included in the study.

Results: Sixty-six children were admitted for heart failure. The prevalence of CHF was 5.3%. The mean age was 41.59 months \pm 53.35 months (range: 0 to 168 months). The 0-5 age group was the most represented (n = 48, 72.72%). CHF involved 38 boys and 28 girls, a sex ratio (H / F) of 1.36. The majority of our patients coming from semi-urban areas (42.4%). The etiology of CHF, represented by order of frequency rates was congenital heart disease, rheumatic heart disease and cardiomyopathies with 59.09%, 22.73%, and 7.58% of cases respectively. It was indeterminate in 4.54% of the cases. According to cardiac Doppler ultrasound performed, the Left Ventricular Ejection Fraction (LVEF) was impaired (less than 50%) in 19 patients, representing 29.2% of cases with an average of 64.00 % \pm 15.16% (extremes: 24 and 86%). Anemia was the comorbidity most commonly associated with their condition (n = 33; 50%).

Conclusion: Congestive heart failure of the child is infrequent. The main etiology is represented by congenital heart disease.

Keywords: Heart Failure- Children- Congenital Heart Disease- Senegal.

had consultation rooms. Staff were trained on correct measurement of BP. The Dakтари Africa telemedicine platform was used: it had regulatory approval and was the pioneer in the region. 25 Kenyan doctors took part from Nairobi, Thika (Kenya), and Cape Town, (S. Africa). Patients had their BPs recorded on their patient profiles on the platform.

Results: 171 clients were surveyed between November 2016 and July 2017, and 35 of them went on to have online video consultations. Among those surveyed 5 were aged between 16-19 years, 38 were between 20-29 years, 66 were between 30-39 years, 41 were between 40-49, 15 between 50-59years, and six were over 60 years old.

The reasons for visiting the pharmacy varied: 16 (9.3%) came with a prescription; 10 (5.8%) needed a refill but did not have a prescription; 68 (39.7%) came for over-the-counter medication; 14 (8.2%) purchased beauty products; 39 (22.8%) had symptoms of illness; 24 (14%) had other reasons to visit. Of those patients surveyed 151 (88.3%) said they were willing to have an online video consultation if it was available and affordable; 20 (11.7%) replied that they were not. 146 (85.4%) responded that if telemedicine were possible there they would consult more frequently; 19 (11.1%) responded that they would not necessarily do so; 6 (3.5%) abstained.

Conclusions: Community pharmacies can become centres of care for hypertension. Pharmacy telemedicine can increase access to medical specialists and improve patient management. Medication can be dispensed that is only found in Government referral hospitals. This will contribute towards universal healthcare.

Submission ID: 900

ULTRASOUND PARAMETERS ASSOCIATED WITH LEFT ATRIAL APPENDAGE THROMBUS

Authors:

amrouche amel, djemmal bilal, djermane dahlia, ouabdesslem souhila, salem mohamed amine, azaza adel, aitmokhtar omar, benkhedda salim

Mohamed lamine debaghine hospital, Algeria

English Abstract:

Introduction: When performing a trans-oesophageal echocardiography, one of the aims of the examination is the verification of the vacuity of left atrial appendage and detection of a possible thrombus.

Methods: We collected data concerning the analysis of the left atrial appendage from a panel of patients who underwent TEE with diseased heart (valvular especially mitral stenosis, congenital, pre-cardiac conversion for atrial fibrillation).

We focused in some parameters of the LAA: the morphology distributed according to the 04 shapes classification (windsock, cauliflower, chicken wing, cactus), we measured the area of LAA and with each patient, we acquired pulse wave doppler determining the maximum (telesystolic) emptying velocity at mid LAA (MEV-LAA).

Results: We assessed 55 patients and the results we found are: the predominant morphology was windsock 50.9% then equally chicken wing and cauliflower 14.5%, cactus 11%. Thrombus occurred in major part with cauliflower type with 50% of all patients with same shape. LAA was dilated in 25 patients in whom 7 had LAA thrombus (Se: 70% Sp: 60% PPV: 22%). LAA maximum emptying velocity was reduced in 18 patients in whom 10 had LAA thrombus (Se: 100% Sp: 82.2% PPV: 36%). 7 Patients with a ratio LAA-SA/MEV-LAA <1.7 had LAA thrombus (Se: 70% Sp: 97.8% PPV: 47%).

Conclusion: Transesophageal echocardiography is a very important exam to evaluate the LAA; and provide valuable informations for detection of the thrombus.

Submission ID: 904

THE COMMUNITY PHARMACY CAN BE A CENTRE OF CARE FOR HYPERTENSION PATIENTS

Authors:

Charles Kamothe, Daniel Mwaura
The International Clinic Ltd., Kenya

English Abstract:

Background: Hypertension is rampant all across Africa and is the cause of death of over 10 billion annually worldwide. Challenges in its management include: low awareness, late diagnosis, poor blood pressure (BP) monitoring, and inadequate medication. Community pharmacies are often the first point of contact with the health system. Pharmacy-based teleconsultations to doctors were unprecedented. Facility-based telemedicine has been shown to be both acceptable and effective in rural Kenya.

Purpose: To establish whether the community pharmacy could be a point of care for hypertension patients using telemedicine.

Methods: This was a longitudinal observational study. Data was collected using a survey filled by clients visiting community pharmacies in Nairobi County. 8 pharmacies were recruited that

Submission ID: 897

CORONARY ARTERIES AGATSTON SCORE USING COMPUTED TOMOGRAPHY AT DETERMINING PATIENTS AT RISK OF CARDIOVASCULAR EVENTS

Authors:

LULU SAID FUNDIKIRA, RACHEL KATARAIA, PEDRO PALLANGYO MUHIMBILI UNIVERSITY OF HEALTH AND ALLIED SCIENCES, TANZANIA

English Abstract:

Background: Agatston score is a semi-automated tool applied to calculate a calcium score based on coronary artery calcification (CAC) using unenhanced low-dose CT scan. The score is an indicator of coronary heart disease and can predict cardiovascular events even beyond traditional Framingham Risk Score (FRS). Agatston score over 300 signify a high risk of developing major cardiovascular events.

Aim: To assess the role of Agatston scores in determining patients at risk of cardiovascular events undergoing cardiac computed tomography.

Methodology: A hospital-based, cross-sectional study involving 238 patients referred for cardiac CT was conducted at Muhimbili National Hospital, Dar es Salaam, Tanzania between November 2018 and April 2019. Standardized structured questionnaires were used for recording patients' demographics, clinical information, calculated FRS and Agatston scores. SPSS version 22.0 was used for the data analysis. Chi-square test was utilized in analysis of categorical variables and a p-value < 0.05 was considered statistically significant.

Results: Agatston score was classified as high risk for >80 Age group (75.9%) compared to other groups with p value <0.001. Also, males were at high risk at 29.9% with p<0.05. Whereas, using calculated FRS, CAC was seen in 59% of low risk, (21%) intermediate risk and (19%) high-risk group. Of these, 19(36.5 %) patients who were initially classified to be in an intermediate risk group by FRS were reclassified to high-risk groups by the Agatston score.

Conclusions: Agatston score increase with aging and males are more prone to high scores. It can be used alone in predicting the development of cardiovascular events and has proven to upgrade the risk stratification used in FRS.

Recommendation: We recommend routine Agatston score in all patients undergoing CT chest regardless of the indication in order to detect asymptomatic cases.

Key words: Agatston score; FRS; cardiovascular events.

Submission ID: 908

LEFT VENTRICULAR NONCOMPACTION (LVNC): CLINICAL, ECHOCARDIOGRAPHIC AND EVOLUTIONARY ASPECTS AT THE REGIONAL HOSPITAL OF SAINT LOUIS (SENEGAL)

Authors:

BEYE Serigne Mor, Diouf Youssou, Samb Cheikh Amadou Bamba, Kane Adama
Gaston Berger University of Saint Louis, Senegal

English Abstract:

Introduction: Ventricular noncompaction is a rare congenital cardiomyopathy characterized by abnormalities of morphogenesis of the left ventricle endomyocardium. It can be revealed by thromboembolic, rhythmic complications, by heart failure and in some situations by sudden death. Echocardiography is the imaging modality of choice for its detection. We conducted a study to determine the clinical, echocardiographic and evolutionary aspects of LVNC.

Methodology: This was a retrospective, descriptive and analytical study, conducted over a period of two years, from October 1, 2018 to October 1, 2020, at the Saint Louis CHR cardiology department. All patients with echocardiographic aspects of LVNC were included in the study.

Results: At the end of the study, 18 patients with the diagnosis of LVNC were evaluated with a hospital prevalence of 1.1%. The average age was 40.7 years with a female predominance and a sex ratio of 1.25. Heart failure was found in 88.9% of patients. The uncompact/compact average thickness ratio was 2.44 0.20 with a predominance of the apical wall of the left ventricle (LV). The mean LV ejection fraction was 29%. Nearly 44% of patients had thrombus at the apex of the LV. An associated right ventricle impairment was observed in 11% of patients. The main complications observed were cardiogenic shock (16.7%), pulmonary embolism (11%) and acute lung edema (5.5%) and ischemic stroke (5.5%). Nearly 90% of the patients had treatment with diuretics and inhibitors of the conversion enzyme, one patient benefited from an implantable automatic defibrillator as part of the primary prevention of sudden death. Mortality during the study was 11%.

Conclusion: NCVG is a rare congenital condition, with multiple modes of disclosure, but mostly dominated by heart failure. Cardiac ultrasound remains the reference exam in the LVNC diagnosis. Early diagnosis and treatment are necessary because in some situations the outcome can be fatal.

Keyword: left ventricle noncompaction, heart failure, echocardiography.

Submission ID: 909

INFECTIOUS ENDOCARDITIS WITH MAJOR CUTANEOUS EXPRESSION: ABOUT A CASE

Authors:

BEYE Serigne Mor, Samb Cheikh Amadou Bamba, Diop Khadimu Rassoul, Kane Adama
Gaston Berger University of Saint Louis, Senegal

English Abstract:

Introduction: Infectious endocarditis is a transplant of microorganisms in healthy endocardium, in injured endocardium or intracardiac material. The modes of revelation can be multiple and varied, the skin manifestations of an infectious although classical endocarditis, are rare.

Observation: This was a young 20-year-old patient, admitted in our cardiac unit for the exploration of a cardiac murmur in a context of long-term fever evolving for nearly 3 weeks associated with a skin rash. The examination found fever at 39°C and tachycardia at 115 beats/min. The cardiac auscultation revealed tachycardia with a systolic breath apexian mitral insufficiency. The skin examination revealed Osler's nodules, an erythema of Janeway on the soles of the feet and on the palms of the hands. In biology, there was a non-specific biological inflammatory syndrome. Blood cultures from three series of samples did not isolate a germ. The transthoracic echography showed large vegetations in the anterior and posterior leaflets of mitral valve associated with severe mitral regurgitation. In this context, the diagnosis of mitral endocarditis is retained according to the Duke criteria. A double intravenous antibiotic therapy based on ceftriaxone and gentamycin was administrated. The evolution was favorable with stable apyrexia, disappearance of skin signs, regression of non-specific biological inflammatory syndrome. A replacement surgery of mitral valve was proposed.

Conclusion: Infectious endocarditis is a disease with multiple and varied modes of revelation. Although skin manifestations are rare, they are still a determining factor in the diagnosis of infectious endocarditis.

Keywords: Infectious endocarditis, skin manifestations and Duke criteria.

Submission ID: 899

UTILITY OF HOLTER MONITORING IN THE EVALUATION OF RHYTHM DISORDERS, A CASE SERIES

Authors:

DR FIONA KAHANGE, DR DANIEL NDUIGA, KEVIN KIUNDU, HELLEN MWENDE

HEART RHYTHM MEDICAL CENTRE, KENYA

English Abstract:

BACKGROUND: Palpitations are a common presentation to cardiology clinics and patients need assessment to differentiate between cardiac and non-cardiac causes. A patient's history, physical examination findings and baseline ECG may not be sufficient in evaluation of palpitations. Holter recording is therefore recommended in the evaluation of patients with near syncope, syncope and palpitations.

METHODS: We conducted a retrospective single centre study assessing records of patients above the age of 13 years with history of palpitations and needing holter studies reviewed between August 2019 and July 2021. These patients were seen at the Heart Rhythm Medical Centre in Nairobi and data was analysed using SPSS V 16.0.

RESULTS: A total of 84 patients were recruited. The predominant presentation was palpitations at 66.7%, others included syncope and dizziness at 6% each, evaluation of cryptic stroke accounted for 20%. 19% were between the ages of 10-30 years, 33.3% were between 31-50 years, and 47.6% were above 51 years. 44% were male and 56% female, with a male:female ratio of 1:1.3.38.1% of recordings were normal. The findings of atrial and ventricular ectopy were equal at 21.4% each. 14.3% of patients had both atrial and ventricular ectopy while 2.4% had atrial and ventricular ectopy as well as atrial fibrillation. 2.4% had sick sinus syndrome.

CONCLUSION: Holter monitoring is easy to use and inexpensive diagnostic tool in the assessment of rhythm disorders in our population. The Majority of the patients studied were young accounting for the predominantly benign findings.

Submission ID: 910

HEART DISEASE IN CHILDREN AT THE ZIGUINCHOR HOSPITAL DE LA PAIX (SENEGAL)

Authors:

Manga Simon Joël, Houngbeme Sena Laurenda, Leye Mohamed Ben Omar MC, Thiam Lamine, Te Indafa Quinta

Cardiology departement of Hôpital de la Paix and Assane Seck University of Ziguinchor, Senegal

English Abstract:

Introduction: Childhood heart disease consists of congenital and acquired heart disease. The aim of this study was to describe the epidemiological profile and the clinical and aetiological characteristics of childhood heart disease at the Hôpital de la Paix in Ziguinchor.

Method: This was a retrospective study from 1 January 2016 to 1 June 2020 in the cardiology and paediatrics departments of the Hôpital de la Paix in Ziguinchor. We included in the study all patients aged 0-18 years, hospitalised with heart disease confirmed by cardiac ultrasound.

Results: In total, we included 57 patients in the study. The hospital prevalence was 1.6%. The average age was 67.85± 65 months. The predominance was male with a sex ratio of 0.96. The majority of mothers (50%) were between 15 and 30 years old. In our study, 33.33% of patients had a history of previous angina. Trisomy 21 was present in 46.66% of our patients. Severe acute malnutrition

was found in 21.05% of cases. Lower limb oedema (18.28%) and dyspnoea (13.2%) were the most frequent clinical signs. On cardiac ultrasound, 54.37% of patients had congenital heart disease and 45.63% of patients had acquired heart disease. Ventricular septal defect (33.33%) was the most common congenital heart disease. Among the acquired heart diseases, mitral insufficiency predominated with 59.25% of cases. Infective endocarditis was the main complication observed. Management was mainly drug-based with diuretics and ACE inhibitors. No patient had undergone surgery. The in-hospital evolution was favourable in 87.72% of cases and the mortality rate was 12.2%.

Conclusion: Our study showed that congenital heart disease was more frequent than acquired heart disease and that management, particularly surgery, was lacking.

Keywords: Heart disease, Child, Ziguinchor de la Paix Hospital.

Submission ID: 905

COMPARISON OF THE PREDICTIVE VALIDITY OF NYHA AND HLM STAGING ON CARDIAC FUNCTIONAL STATUS IN CHRONIC HEART FAILURE PATIENTS.

Authors:

AMAECHE KELECHI, BASIL N OKEAHIALAM, HUSSEIN SULEIMAN
Department of Internal Medicine, ATBUTH, Bauchi, Nigeria

English Abstract:

BACKGROUND: Heart failure is a progressive disease requiring a valid assessment scheme to determine severity. The NYHA classification in common use, apart from lacking reproducibility, does not give recognition to clinical features and the involvement of other organs. The newly proposed TNM-like classification termed HLM-staging is believed to overcome this. Therefore, the predictive validity of these two classification schemes was examined for their association with functional status measured by six-minute walking distance (6MWD) in this comparative study of 80 patients with heart failure.

AIM: To compare the predictive values of NYHA and HLM staging on cardiac functional status determined by 6MWD in heart failure.

METHODOLOGY: A total of 80 patients with chronic heart failure were recruited in this study. History was taken, following which NYHA grading for each patient was determined. The participants were subsequently examined clinically and samples were obtained for biochemical analysis and packed cell volume. Chest X-ray, spirometry, electrocardiography and echocardiography were done on all participants. The HLM staging and scores were determined after completing the clinical examination and investigations. The 6MWD was determined by asking participants to walk at their own pace in a straight plane of the unit corridor and distanced walked in 6minutes in meters was noted.

RESULTS: There was a moderate negative, but significant correlation between the HLM staging with the 6 minute walk distance ($Rho = -0.423$, $p < 0.001$). The NYHA grading revealed a strong, negative but significant correlation with the 6minute walk distance ($Rho = -0.755$, $p < 0.001$). The NYHA grading showed higher sensitivity of 85.7% in predicting poor 6 minute walk distance as compared to HLM staging which has a sensitivity of 43%. NYHA also had a similar specificity 78% compared to 81.4% for HLM staging.

CONCLUSION: The results of this study showed that though NYHA grading of HF remains more sensitive and of similar specificity with HLM staging in predicting functional status and remained preferred too for grading severity of heart failure, the HLM staging may be useful as an adjunct in stratifying HF severity in HF having revealed a modest sensitivity and a similar specificity as NYHA in predicting the functional status in relation to the expected 6MWD. More studies will be required to further define and validate the usefulness of HLM staging in clinical practice.

Submission ID: 965

SPONTANEOUS CORONARY RECANALIZATION AMONG NIGERIAN WITH ST SEGMENT ELEVATION ACUTE MYOCARDIAL INFARCTION. WHAT ARE THE DETERMINANTS AND SEX DIFFERENCE?

Authors:

EMMANUEL AUCHI EDAFE, AKPA MACLEAN RUMOKERE, ISEKO ISEKO IYOKO

CARDIOCARE HOSPITAL, ABUJA, UPTH, PORT HARCOURT, Nigeria

English Abstract:

Background: Spontaneous recanalization (SR) could occur after the onset of ST segment elevation acute myocardial infarction (AMI). We evaluated any sex different and determinants and prognostic significance of SR in 196 consecutive patients with AMI who underwent primary angioplasty at our institution.

Methods: The study population was divided into 2 groups according to the presence (group I, n = 23) or absence (group II, n = 61) of spontaneous (Thrombolysis In Myocardial Infarction [TIMI] antegrade > or = 2 flow on the preintervention angiogram). The primary end point was the occurrence, within 8-weeks after AMI, of death, nonfatal reinfarction, and congestive heart failure.

Results: Baseline characteristics were similar between the 2 groups. Mean levels of Troponin I were lower in group I than in group II with P-value of < 0.05. The rate of TIMI flow grade 3 after intervention was higher in group I than in group II (98.5% vs 80.7%, respectively, p < 0.05), and patients in group I had a faster corrected TIMI frame count than those in group II. There was no significant difference between men and women.

Conclusion: Spontaneous recanalization in STEMI is associated with faster coronary flow, smaller infarct size, and a better clinical outcome after primary angioplasty.

Keywords: recanalization of STEMI, determinants, STEMI in Nigeria

Submission ID: 933

CARDIOVASCULAR RISK FACTORS AND MARKERS OF INFLAMMATION AND MYOCARDIAL INJURY IN PEOPLE LIVING WITH HIV IN KENYA

Authors:

Hassan A Ahmed, Mohamed Jeilan, Isiah Akuku, Ken Lee, Sherry Eskender, Jasmit Shah, Mohamed K Ali, Michael Chung, Anoop Shah, Pablo Perel

AGAKHAN UNIVERSITY HOSPITAL, NAIROBI, Kenya

English Abstract:

Objectives: To evaluate the prevalence of cardiovascular risk factors and explore their associations with high-sensitivity cardiac troponin (hscTnI) and high-sensitivity C-reactive protein (hsCRP) in people living with HIV (PLHIV) in Kenya.

Background: PLHIV are at increased risk of cardiovascular disease with the majority of evidence emerging from high-income nations.

Methods: In a cross-sectional study of PLHIV (≥30 years with no prior history of cardiovascular disease) demographic and risk factor data were recorded, and bloods sampled for hscTnI and hsCRP. Regression models were constructed to explore associations between hscTnI, hsCRP and cardiovascular risk factors.

Results: Across 200 PLHIV (median age 46 years, IQR 38-53; 61% females), the prevalence of hypercholesterolemia (>6.1 mmol/L)

and self-reported hypertension were 19% (n=30/199) and 30% (n=60/200), respectively. HscTnI was below the limit of quantification (<2.5 ng/L) in 65% (n=109/169) with the median hsCRP at 2 mg/L (IQR 0.8-4.2 mg/L). Framingham laboratory-based risk scores classified 83% of PLHIV as low risk and 12% and 5% at intermediate and high risk, respectively. Older age (adjusted odds ratio [aOR] per year increase 1.05, 95% confidence interval [CI] 1.01-1.08) and systolic blood pressure (140-159mmHg [aOR 2.96; 95%CI 1.09-7.90] and >160mmHg [aOR 4.68, 95%CI 1.55-14] compared to <140 mmHg) were associated with hscTnI levels. No associations were observed between hsCRP and cardiovascular risk factors.

Conclusion: Despite a relatively young age, traditional cardiovascular risk factors such as hypertension and hypercholesterolemia were common in PLHIV. The majority of PLHIV - using traditional risk estimation systems - have a low estimated CVD risk. Whilst hscTnI values were associated with increasing age and raised blood pressure, no associations between hsCRP levels and traditional cardiovascular risk factors were observed.

Submission ID: 929

HYPERTROPHIC CARDIOMYOPATHY: A CASE SERIES OF 39 PATIENTS

Authors:

Sarr Simon Antoine, Diouf Youssou, Ibouroua Ismael Hanifa, Mingou Joseph Salvador, Beye Serigne Mor, Manga Simon Joel, Aw Fatou, Dioum Momar, Ngaide Aliou Alassane, Bodian Malick, Leye Mohamed, Ndiaye Mouhamadou Bamba, Mbaye Alassane, Kane Adama, Diao Maboury, Kane Abdoul

Cardiology unit Aristide Le Dantec Hospital, Dakar, Senegal

English Abstract:

Hypertrophic cardiomyopathy is most frequently due to a morbid mutation on a gene encoding for a protein of the cardiac sarcomere.

Its rhythmic complications leading to sudden cardiac death make it a severe pathology and highlight the utility of the screening.

We performed a transversal and descriptiv study at the cardiology ward of Hôpital Aristide LeDantec in Dakar from January 1st 2017 to September 3rd 2019 with the goal to evaluate patients suffering from hypertrophic cardiomyopathy. The study included all patients diagnosed in the ward during that time. The criteria of definition were a parietal left ventricular thickness > 15mm, at least one myocardial segment enhanced by any imaging method (MRI, echography, scanner) and not solely explained by the heart conditions. For family screening, the treshhold > 13 mm was required. The features studied was clinical, paraclinical, therapeutical and pronostical (evaluation risk of sudden cardiac death).

In total, 39 patients were included. The mean age was 53,36 years old with a male predomance (sex-ratio of 2). Thirteen patients (33,3%) had family history of sudden cardiac dearch, eleven (28,2%) had presented several episodes of syncope. At the electrocardiogram, one case of atrial fibrillation was noted. A deep and negative T wave as well as conduction disorders were noted respectively on 24 (63,1%) and 9 (23,1%) patients. The Holter ECG showed a ventricular hyper excitability on 12 patients (23%). The excercise testing showed a normalisation of the T wave on 3 patients (30%). A poor adaptation of blood pressure values at stress was noted on 2 patients. At the echocardiography Doppler, the type V of Maron predominated(61,5%), 17 patients (43,6%) had an indicative left intraventricular gradient. Four patients (10,3%) was at high risk according to the scale proposed by the ESC. One patient among them was provided with an implantable cardioverter defibrillator.

Key words: hypertrophic cardiomyopathy, syncope, arrhythmia, defibrillator, Dakar.

Submission ID: 945

HYPERTENSIVE HEART FAILURE IN IBADAN: A FIVE-YEAR PROSPECTIVE STUDY

Authors:

Okechukwu S Ogah, Olanike Allison Orimolade, Akinyemi Aje, Adewole Adebiyi, Abiodun M Adeoye

Cardiology Unit, Department of Medicine, University of Ibadan/ University College Hospital Ibadan, Nigeria

English Abstract:

Introduction: Hypertension remains a major public health problem globally. It is associated with significant morbidity and mortality. Hypertensive heart disease is a constellation of abnormalities such as left ventricular hypertrophy (LVH), systolic and diastolic dysfunction, as well as their clinical manifestations (arrhythmias and symptomatic heart failure). Majority of our heart failure patients in Ibadan has hypertensive heart disease. The objective of the study is describe the characteristics of heart failure caused by hypertensive heart disease in Ibadan, Nigeria.

Methods: This is an analysis of a prospectively collected data over a period of 5 years (Aug 1, 2016 - July 31, 2021). Data were collected on the biodata, as well as clinical and echocardiographic features.

Results: A total of 753 patients were consecutively studied, mean age 60.3 ± 13.2 with age range between 18 – 98 years, 58.2% (438) were males. Most patients (92.2%) presented with New York Heart Association functional class II and III and 26.9% had preserved systolic function (HFpEF).

Conclusion: Hypertension is the most common aetiological risk factor for heart failure in Nigeria. Our study showed that hypertensive heart failure is commoner in males and most patients present in their 5th decade of life with left ventricular dysfunction.

Keywords: Heart failure, Hypertensive heart disease, Left ventricular failure

Submission ID: 925

CONGENITAL HEART DISEASE IN ADOLESCENTS AND ADULTS: EPIDEMIOLOGICAL, DIAGNOSTIC AND EVOLUTIONARY ASPECTS OF 171 CASES IN THE CARDIOLOGY DEPARTMENT OF THE TEACHING HOSPITAL ARISTIDE LE DANTEC

Authors:

BODIAN Malick, MINGOU Joseph Salvador, BALDE El Hadji Yaya, AW/LEYE Fatou, SARR Simon Antoine, LEYE Mohamed, KANE Faty, BA Papa Salmane, AFFANGLA Alain Désiré, IBOUROI Hanifa Ismael, NDIAYE Papa Guirane, AKANNI Stéphanie, NDIAYE Mouhamadou Bamba, MBAYE Alassane, DIAO Maboury

SOSECAR, Sénégal

English Abstract:

Introduction: Adult congenital heart disease (CHD) represents a new and growing patient population and forms a very heterogeneous group in terms of diversity, complexity, severity and management. This is why we have conducted this work with the following objectives. We conducted this work with the aim of studying the epidemiological, diagnostic, therapeutic and evolutionary aspects of the various congenital heart diseases of adolescents and adults in hospitals.

Methodology: This is a descriptive study with retrospective and prospective data collection over a period of 20 years (April 1, 2001, to March 31, 2021), at the cardiology department of the teaching hospital Aristide Le DANTEC (Dakar, SENEGAL) and including all patients aged at least 16 years followed for CHD.

Results: We retained 171 patients for an overall frequency of adult congenital heart disease (CHD) in the department of 0.9%. We had a female predominance of 53.2%, a mean age of 29.4 years with a predominance of the age group]20 - 29 years] (39.2%) followed by [16-20] (24.0%) and]30-40] (19.3%). The mean age of discovery of CC was 14.5 years (birth and 69 years). Most patients were of low socioeconomic status (55.1%). We noted consanguinity in 42 patients (24.6%), a notion of familial heart disease in 12 cases (7%). The circumstances of discovery were dominated by dyspnea (55.56%), incidental situation (21.1) and heart murmur (15.1%). The main signs of examination were murmur (71.3%), tachycardia (55.5%), bursting of the pulmonary B2 (28.7%). Cyanosis and digital hippocras were respectively noted in 17.5% and 12.3%.

Polycythemia was present in 19 patients (11.1%). The ECG showed sinus rhythm (45.6%), atrial flutter (17.5%), atrial fibrillation (2.3%), and right bundle branch block (12.3%). Echocardiography identified the main congenital heart diseases : ventricular septal defect (33.9%), atrial septal defect (19.3%), tetralogy of Fallot (17.5%), pulmonary stenosis (16.4%), patent ductus arteriosus (11.1%).

Treatment was medical alone (60.2%), interventional (3.5%) and surgical (21.1%). The average follow-up was 8.2 years. Complications were dominated by rhythm disorders (22%) and heart failure (21%). The death rate was 7.7%.

Conclusion: Adult congenital heart disease is becoming increasingly common in our practice due to the development of diagnosis and treatment.

Keywords: adult congenital heart disease, GUCH, echocardiography, Dakar

Submission ID: 920

VALIDATING RAPID POINT-OF-CARE STREP A TEST ACCURACY IN SUB-SAHARAN AFRICA: PILOT RESULTS FROM TWO SITES

Authors:

Jessica Abrams, Lisa Telford, Kelin Engel, Rezeen Daniels, Emmy Okello, Andrea Beaton, Liesl J Zuhlke, Mark E Engel

University of Cape Town, South Africa

English Abstract:

Background: Rheumatic Heart Disease (RHD) is a preventable chronic condition which evolves from an untreated Group A Streptococcus (Strep A) bacterial infection. Without treatment, an immune response can occur, damaging organs of the body especially the heart (Acute Rheumatic Fever, ARF). If Strep A pharyngitis is promptly diagnosed and treated with antibiotics, ARF and subsequently RHD, is unlikely to develop.

Rapid point-of-care (POC) tests have been developed for timely Strep A diagnosis and could prove advantageous given the constraints associated with throat cultures in resource-scarce RHD endemic regions such as Africa. In this report, we present two rapid POC Strep A test kits (Sure-Vue Signature and BinaxNOW®) used in at-risk populations in Uganda and South Africa, validated against polymerase chain reaction (PCR) and culture results.

Methods: The South African cohort was recruited over 5 months, from a community clinic in peri-urban Cape Town. A throat swab specimen for culture as well as for the BinaxNOW® rapid test, was taken from consenting participants, not having been on antibiotic treatment in the preceding 14 days.

The Uganda cohort was recruited from a four-week primary school-based prospective cohort in Gulu and Mbarara Districts. During the active surveillance period, all children attending the school were asked to present for evaluation. A history, clinical examination, and swab for culture, PCR, and the Sure-Vue Signature rapid test were completed. Sensitivity and specificity analysis were performed on the Uganda data.

Results: Participants were aged between 6 and 16 years. In the Cape Town cohort (N=48), all rapid tests were negative, of which five culture results were positive for Strep A. In the Uganda cohort (N=311), 113 (36.3%) rapid tests were positive; however, a lower positivity among culture (23,7.4%) and PCR (24, 7.7%) were observed. Compared to culture, the Sure-Vue Signature Strep A test showed a sensitivity of 48% and specificity of 65% in the Ugandan cohort; the positive and negative predictive values were 10% and 94%, respectively.

Conclusion: This brief report provides evidence that current rapid POC tests for Strep A perform poorly in sub-Saharan, thus necessitating confirmatory testing with culture or PCR. While laboratory reliability could have played a role, these results are likely attributable to global regional variation in Strep A genetic markers.

Submission ID: 931

THE INITIAL EXPERIENCE AND CLINICAL CHARACTERISTICS OF PATIENTS UNDERGOING PERMANENT PACEMAKER IMPLANTATIONS AT THE COAST GENERAL TEACHING AND REFERRAL HOSPITAL (CGTRH) MOMBASA, KENYA

Authors:

Harun Otieno, Vinesh Vaghela, Bakari Suleiman, Abdalla Bajaber, Iqbal Khandwalla, Vickie Mumbo, Brian Nduati Bonface Nandwa
Coast General Teaching and referral Hospital, Kenya

English Abstract:

Background: Pacemakers are electronic impulse generators that are implanted to restore a regular heart rhythm in patients with symptomatic bradycardia or as part of heart failure treatment. In an ideal situation the procedure of implantation is performed in a cardiac catheterization laboratory (cath lab), but in limited resource settings this can be done in a theatre under fluoroscopy.

Coast General Teaching and referral hospital (CGTRH) in Mombasa is the second and only other public hospital to have a cath lab in Kenya besides The Kenyatta National Hospital in the capital city of Nairobi, Kenya. The CGTRH cath lab serves a population of 6.5 million people from Mombasa and surrounding counties.

Objective: To describe and review the initial experience of implanting permanent pacemakers under fluoroscopy and subsequently in a newly cath lab at CGTRH. We shall report the overall patient demographic characteristics, clinical indications, complications and financing challenges.

Methods: A retrospective analysis by chart review was performed of the CGTRH medical records of consecutive patients who underwent PPI from 1st March 2018 to August 31st 2021.

Results: In the period under review, there was a total of 29 implants of which 15 (51.7%) were done under fluoroscopy. Majority of the patients 19(65.5%) were female. The median age was 72.2(Range 55-92) years. The commonest indication was symptomatic complete heart block 25(86.2%). CRT-P devices were implanted in 5(17.2%) of the patients of which 3(10.3%) had complete heart block and Left ventricle systolic dysfunction. CRT-P pacemakers were implanted with the help of proctors. Fatigue and syncope were the commonest symptoms. Dual chamber pacemaker were implanted in 22(75.8%) patients. A total of 3(10.3%) patients experienced PPI related complications. Pneumothorax was the commonest occurring in 2(6.89%) patients. Lead dislodgement occurred in 1(3.4%) patient. All the implants were funded by the National Health Insurance Fund.

Conclusion: Pacemaker implantation can be performed in the OR with fluoroscopic guidance in resource limited settings. The Cath Lab is the ideal setup when possible. The rate of complications including

pneumothorax and lead dislodgement are elevated, possibly due to the steep learning curve and indicates the need for better approach to central venous access and continued proctors for more difficult cases.

Submission ID: 918

INVESTIGATING THE CLINICAL CHARACTERISTICS OF PAEDIATRIC COVID-19 IN CAPE TOWN, SOUTH AFRICA: INITIAL RESULTS FROM THE UNIVERSITY OF CAPE TOWN (UCT), DEPARTMENT OF PAEDIATRICS AND CHILD HEALTH, COVID-19 PAEDIATRIC REPOSITORY

Authors:

Liesl Zühlke, Raphaella Stander, Alexia Joachim, Thomas Aldersley, Adila Dawood, Cameron Hendricks, Khushbu Soni, Jessica Abrams, Brenda Morrow, Heather Zar, Kate Webb, Kirsty Donald, The COVID-19 paediatric repository investigators
University of Cape Town, South Africa

English Abstract:

Introduction: Studies show that children account for only 1-5% of diagnosed COVID-19 cases, they have milder disease than adults and deaths are extremely rare. The complete clinical picture of pediatric COVID-19 has not yet been fully reported or defined. Additionally, the South African pediatric population has unique clinical characteristics and risk implications and needs investigating. We aimed to characterize COVID-19 in Cape Town children.

Methods: The UCT COVID-19 pediatric repository is a prospective cohort recruited via convenience sampling at 3 Western Cape Hospitals. All patients \leq 18 years who test COVID-19 positive are eligible for inclusion in the study.

Results: To date 227 participants, 56%(125/227) male with median age 2 years (IQR:0-6), have been enrolled. Only 28(12%) participants were in contact with a confirmed COVID-19 positive case, 67% of these, were first degree relatives, 28% second degree relatives and 6% health care workers.

Comorbidities were present in 125(56%) participants. Of 32 recorded comorbidities, congenital heart disease (CHD), found in 7% of participants, ranked third. CHD subtypes included PDA (4), Tetralogy of Fallot (3), AVSD (2), Pulmonary atresia with VSD (2), truncus arteriosus (1), Coarctation of the Aorta (1), Congenital aortic valve stenosis (1), and ASD (1). Other cardiac comorbidities were, cardiomyopathy (2), primary pulmonary hypertension (1) and rhabdomyoma (1).

On presentation 173 (76%) were symptomatic. Predominant symptoms included cough 40%, history of fever 36%, documented fever 34%, difficulty breathing 28%, and nausea or vomiting 20%. On examination, 65% had abnormal heart rates, 47% abnormal respiratory rates, 35% were in respiratory distress and 24% were hypoxic. Of the 227 patients, 169(74%) were admitted to hospital and 33 (15%) were admitted to ICU. In the ICU 79% of patients required non-invasive and 24% invasive ventilation, median length of ICU admission was 3 days (IQR:2-7.5). During admission 38(17%) patients developed COVID-19 complications: secondary infection 10%, sepsis 4%, MIS-C 2%, and myocarditis or new onset heart failure 1% and 2(0.9%) died, including one patient with AVSD, who presented with severe pulmonary hypertension and acute heart failure post cardiac surgery.

Conclusion: We present the initial findings of the UCT pediatric COVID-19 registry. We anticipate that these data will help to complete the clinical picture of COVID-19 in the South African pediatric population.

Submission ID: 930

PROGNOSTIC FACTORS IN PATIENTS PRESENTING WITH ACUTE HEART FAILURE IN AN ALGERIAN POPULATION

Authors:

Djermane Dalila, Djouhri Messaouda, Haddad Assia, Baouni Med Mehdi, Kathia Mouzaoui, Benouareth Fouzia, Dahimen Nawel, Zikara Walid, Samira Abrouk, Salim Benkhedda

UHC Mustapha Bacha Cardiology A2, Algeria

English Abstract:

Background and purposes: Heart failure is a burden worldwide and a leading cause of morbi mortality. Acute heart failure (AHF) represents its worst form. Prognostic stratification is an important step in managing, identifying highest risk patients and assessing situations that need a narrow follow up after discharge.

Population and methods: A prospective observational study from January 2018 to August 2020 including all consenting patients over 18 years of age who presented with acute heart failure, admitted to Mustapha Bacha A2 cardiology department.

Results: 221 patients were enrolled. Mean age is 63 years old. Sex ratio is 1.63. Active smoking (HR = 1.777, CI = 1.047-3.016, p = 0.033), dilation of the inferior vena cava (HR = 2.271, CI = 1.306-3.947, p = 0.004), elevation of transaminases (RR = 2.158, CI = 1.304-3.573, p = 0.003), NTproBNP levels (HR = 3.259, CI = 1.664-6.384, p = 0.001) and high CONUT score (HR=1.853, CI = 1.173-2.930, p = 0.008) were bad prognostic factors. Area under the MAGGIC score curve is statistically significant and makes it a significant bad prognostic factor.

Conclusion: AHF is a major health problem. It needs more efforts and studies to reduce its burden and improve its outcome. Prognostic stratification is important to lower complications and manage risky patients.

Submission ID: 937

ESTABLISHING REGISTRY FOR ACUTE CORONARY SYNDROMES (ACS), HEART FAILURE, ATRIAL FIBRILLATION AND VENOUS THROMBOEMBOLISM IN KENYA: THE HEART REGISTRY

Author:

Lilian Mbau

Kenya Cardiac Society, Kenya

English Abstract:

Introduction: Cardiovascular Diseases (CVDs) are on the rise in Africa where they affect the young and most productive straining posing a huge economic burden. With the exponential rise in prevalence, health systems are struggling to cope amidst challenges such as shortage of specialists. Registries provide real world data that reflects current practice and therefore are useful for monitoring quality of care, adherence to guidelines and identification of gaps which inform planning and resource allocation. Establishment of registries in Africa is on the rise despite the resource limitations majority of which focus on single CVDs. We describe the process of establishment of the first Heart Registry in Kenya highlighting the successes challenges and lessons learnt.

Methods: This is a prospective registry of patients with acute coronary syndromes (ACS), heart failure (HF), atrial fibrillation (AF) and venous thromboembolism (VTE) presenting at 3 public and private cardiovascular referral centers in Kenya: Kenyatta National

Hospital, Aga Khan University Hospital Nairobi and the Moi Teaching and Referral Hospital. Establishment of the registry was supported by grants from National Research fund and a pharmaceutical company. Recruitment began in December 2019 and is ongoing. Patients were consented and data on demographics, clinical characteristics, treatment and in-hospital outcomes was collected. Patients were followed up at six months post discharge with a telephone interview Ethical approval was obtained. Dedicated study nurses were stationed at each site to manually extract and validate data from patient records. Manual case report forms (CRF) were used for initial data collection and thereafter, the data will be entered in to a central electronic database.

Results: As at end of July 2021, a total of 872 patients had been enrolled out of an eligible pool of 1087 patients. Heart failure had the highest number of entries at 417 (48%). Number of patients with VTE was 181 (21%), IHD 144 (17%) and AF 130 (15%). Factors that contributed to successful activation of a recruitment site include goodwill from the administration, an on-site principal investigator and a dedicated research nurse. Use of a digitized data collection platform allows central close monitoring of data entry and improves data management. The COVID-19 pandemic slowed down recruitment which was improved by provision of adequate personal protective equipment to the research nurses.

Submission ID: 922

BIVENTRICULAR HYPERTROPHIC CARDIOMYOPATHY IN A 26-YEAR-OLD NIGERIAN LADY WITH NOONAN'S SYNDROME

Authors:

Olanike Allison Orimolade, Akinyemi Aje, Okechukwu S Ogah, Veronica Obasuyi, Adewole Adebisi

Cardiology Unit, Department of Medicine, University College Hospital Ibadan, Nigeria

English Abstract:

Introduction: Cardiac disorders are found in about a half of cases of Noonan's syndromes, two diseases The common congenital heart diseases in Noonan's syndrome are pulmonary valvular stenosis (60%), interatrial septal defect (25%) and obstructive or non obstructive hypertrophic cardiomyopathy (17%). Biventricular hypertrophic cardiomyopathy is very rare in these conditions.

We report a case of biventricular hypertrophic cardiomyopathy in a 26-year-old Nigerian female with this condition.

Methods: This is a descriptive case report.

Results: The patient presented with dyspnoea on exertion which started at the age of 7-years and has progressively worsened. There is associated precordial chest pain and palpitation.

Clinical examination revealed a young woman, who is small for her age. Had some dysmorphic features such as webbed neck, low set ears, low posterior hair line, crowded teeth, high arched palate, small and asymmetric chin and high carrying angle at the elbow.

The pulses were synchronous and there was no radio-radial or radio-femoral delay and her blood pressures were within normal limits. Cardiac auscultation was unremarkable,

The 12-lead ECG showed biventricular hypertrophy with strain pattern. The echocardiogram showed features in keeping with biventricular hypertrophic cardiomyopathy. Sample has been taken for cytogenetics for her genotype.

Conclusions: Bilateral HCM is rare in this genetic condition. Patients with typical dysmorphism should have full cardiac evaluation to look for these anomalies.

Keyword: Turner's syndrome, Noonan's syndrome, Dysmorphism, Hypertrophic cardiomyopathy.

Submission ID: 955

CARDIAC SURGERY CHALLENGE IN A PUBLIC HOSPITAL IN KENYA

Author:

PETER ASEYO SORE

Coast general teaching and referral hospital, Kenya

English Abstract:

Background: Despite increasing incidence of cardiac diseases, there has been only one public cardiac centre for many years. Even in this centre the output has remained on the lower side and cannot cope with increasing demand for heart surgery. This paper describes successes and challenges of cardiac surgery in a Kenyan public hospital

Methods: Coast general teaching and referral hospital has the necessary layout and infrastructure for cardiac surgery. Initial preparation involved convincing the county government and hospital fraternity to support the programme. Once this was accepted a planning committee was set up. The task of the committee was to enable purchase and acquisition of equipment and supplies and to ensure proper patient selection. Further, the committee organised for the assembly of Kenyan experts and the necessary staff members. Later, the committee started organising for foreign teams to visit and help the local team

Results: A total of 68 patients have undergone open heart surgeries for the past 5 years. These were distributed as follows: Mitral valve replacement 38, intracardiac repair for congenital heart disease 14, aortic valve replacement 7, mitral valve repair 6, double valve replacement 3. 6 patients died within the first month of surgery and 14 patients out of the 68 have succumbed so far. The small numbers were due to lack of serious political and administrative support, poor funding, lack of full complement of staff and of late, the covid pandemic

Conclusion: Open heart surgery is cost intensive. Political support, interactions between surgeons, collaboration between heart centres in Kenya and abroad is necessary successful establishment of an efficient heart centre.

Submission ID: 936

CORRELATES AND SHORT-TERM PROGNOSTIC VALUE OF PLASMA N-TERMINAL PRO-BRAIN NATRIURETIC PEPTIDE LEVELS AMONG HEART FAILURE PATIENTS ADMITTED AT A CARDIAC REFERRAL THE JAKAYA KIKWETE CARDIAC INSTITUTE

Authors:

Pilly Chillo, Mark Mayala

Department of Internal Medicine, Muhimbili University of Health and Allied Sciences, Dar es Salaam - Tanzania

English Abstract:

Background: Several studies conducted in developed countries have found measurements of plasma levels of N-terminal pro-brain natriuretic peptide (NT-proBNP) to be important in evaluating heart failure (HF) prognosis, however this has not yet been studied in Tanzania.

Aim: To determine clinical correlates and short-term prognostic value of plasma NT-proBNP levels among HF patients admitted at Jakaya Kikwete Cardiac Institute (JKCI).

Methodology: This was a hospital-based prospective cohort study conducted between June and December 2020. Patients were consecutively enrolled when they fulfilled the inclusion criteria. Clinical details and NT-proBNP levels were measured at baseline and at 30-day follow-up. Pearson's chi square test was used to associate New York Heart Association (NYHA) functional class and

NT-proBNP levels, while Spearman's correlation coefficient was used to correlate between left ventricular ejection fraction (LVEF) and NT-proBNP levels. Receiver Operating Characteristic (ROC) curves were drawn to determine the best prognostic cut off points of NT-proBNP levels for the different clinical outcomes. A P-value of <0.05 was considered statically significant.

Results: 155 HF patients were enrolled. Their mean±SD age was 48±16 years, 52.3% were male and their mean±SD LVEF was 37.3±10.7%. At baseline, the median (IQR) NT-proBNP levels was 7654pg/ml (2289, 16000), and the levels dropped to 3383pg/ml (731, 9785) after 1 month. Baseline plasma levels of NT-proBNP increased as the NYHA functional class worsened, (P = 0.018), and with decreasing LVEF (r = -0.65, p<0.05). The ROC curve identified an overall cut-off point for poor prognosis at 18000pg/ml with 54.4% sensitivity and 93.7% specificity (area under the curve (AUC): 0.8). The NT-proBNP cut-off point for mortality was 24500 pg/ml with 100% sensitivity and specificity of 92.54% (AUC: 0.958). The ROC analysis also identified levels of NT-proBNP of ≥7899pg/ml to predict re-hospitalization, with 76% sensitivity and 60% specificity (AUC: 0.68), while levels ≥18762.1 pg/ml predicted long hospital stay with a sensitivity of 100% and specificity of 85.62% (AUC: 0.939).

Conclusion: These results demonstrate that NT-proBNP is a powerful measure to predict readmission, mortality and long hospital stay in HF patients and can facilitate discussions with patient prognosis, decisions regarding interventions, and continuity of care.

Submission ID: 950

PERFORMANCE OF THE NEWLY DESCRIBED PEGUERO-LO PRESTI CRITERIA FOR THE DIAGNOSIS OF LEFT VENTRICULAR HYPERTROPHY IN PATIENTS WITH CARDIAC DISEASE IN IBADAN, NIGERIA

Authors:

Okechukwu S Ogah, Olanike A Orimolade, Solomon Aborisade, Chubuike E Okorie, Abraham Awe, Adebayo J Fadare, Adewole Adebiji

Cardiology Unit, Department of Medicine, University of Ibadan/ University College Hospital Ibadan, Nigeria

English Abstract:

Background: Many criteria have been developed to predict left ventricular hypertrophy using an electrocardiogram (ECG). However, one major common limitation of all has been their low sensitivity. Recently, a novel criterion has been proposed, which is believed to have higher sensitivity without a compromise in specificity.

Objective: Therefore, in our study, we aimed to test this novel ECG criterion prospectively in large, unselected cardiac patients in Ibadan, Nigeria.

Methods: Patients who were referred to our echocardiography laboratory due to various aetiologies were prospectively enrolled. The novel Peguero-Lo Presti criterion was assessed along with other established ECG criteria. The left ventricular mass index was calculated using echocardiography. The performance of each index was evaluated.

Results: Overall, 336 patients were included in the final analysis. The mean age was 57.94±14.98 (20–91) and 178 (53.0%) of them were male. The sensitivity and specificity of the Peguero-Lo Presti criterion were 59% and 66%, respectively. Although the highest sensitivity belonged to the Peguero-Lo Presti criterion, in ROC analysis, it showed modest predictive capability, which was similar to the established Cornell voltage criterion.

Conclusion: Although this novel criterion had higher sensitivity, the overall performance was similar to the current indices. Further adjustments, particularly based on age and body mass index, may yield better results.

Keywords: Left ventricular hypertension, Electrocardiography, Peguero-Lo Presti criterion, Cornell voltage criterion.

Submission ID: 960

TUBERCULOUS PERICARDITIS: DIAGNOSTIC, THERAPEUTIC AND EVOLVING ASPECTS: ABOUT 14 CASES COLLIGED AT THE CARDIOLOGY DEPARTMENT OF THE IDRISSE POUYE GENERAL HOSPITAL.

Authors:

Aliou Alassane NGAIDE, Ngone Diaba GAYE, Maimouna SOW, Joseph Salvador MINGOU, Serigne Mor BEYE, Alassane MBAYE

University Cheikh Anta DIOP of Dakar, Senegal

English Abstract:

Introduction: Our objectives were to determine the frequency of tuberculous pericarditis, to describe the diagnosis and treatment and to write the evolving aspects of tuberculous pericarditis in the cardiology department of the Idrissa POUYE general hospital.

Methods: We carried out a descriptive retrospective cross-sectional study between January 1, 2015 and December 31, 2017 in the Cardiology department of HOGIP. Patients hospitalized in the department during the study period were included for pericarditis with or without effusion. The tuberculous origin was retained in the presence of one or more signs in favor: a notion of tuberculous contagion associated with a deterioration of the general condition; an exudative, lymphocyte-rich pericardial puncture fluid; assay of ADA or GeneXpert in positive pericardial puncture fluid; positive tuberculin skin test (IDRT); a favorable outcome under anti-tuberculosis treatment. Data analysis was performed with SPSS version 18 software. Statistically significant when the p-value was less than The difference was 0.05.

Results: The hospital prevalence of pericarditis of tuberculous origin was 0.76% or 38.89% of pericarditis. There was a male predominance with a sex ratio of 1.33. The mean age was 28.6 ± 9.9 years. The socio-economic level was low in 57.14% of cases. A notion of tuberculosis contagion was found in 42.85% of cases. The functional signs were dominated by dyspnea and chest pain found respectively in 78.57% of cases and pericardial friction in 42.86% of cases. The IDRT performed in 50% of cases was positive. The pericardial puncture fluid was serohematic in 57.1% with a predominance of lymphocytic leukocyte formula. The etiologic diagnosis of tuberculous pericarditis was probable in all of our patients. The evolution was favorable in 78.6% of cases. The lethality was 7.1%.

Conclusion: The aetiological diagnosis remains the major difficulty, due to the multiplicity of the aetiologies. The aetiologies are dominated by tuberculosis in our regions. Despite their relatively low frequency, they nonetheless remain a matter of concern in our regions.

Submission ID: 959

EVALUATION OF CARDIOVASCULAR RISK FACTORS DURING ERECTILE DYSFUNCTION: PROSPECTIVE STUDY ABOUT 50 CASES AT IDRISSE POUYE GENERAL HOSPITAL IN DAKAR

Authors:

Aliou Alassane NGAIDE, Ngone Diaba GAYE, Maimouna SOW, Joseph Salvador MINGOU, Serigne Mor BEYE, Alassane MBAYE

University Cheikh Anta DIOP of Dakar, Senegal

English Abstract:

Introduction: Erectile dysfunction of vascular origin shares with cardiovascular risk factors the same etiopathogenesis dominated by endothelial dysfunction. The objective of our study was to assess the cardiovascular risk in patients aged 40 years or more with erectile dysfunction.

Methods: This was a prospective, descriptive and analytical study carried out at the urology and cardiology departments of the Idrissa POUYE general hospital in Dakar from March 1 to June 30, 2019. Men aged 40 years were included, and more, having consulted the urology department for erectile dysfunction according to the IIEF criteria5 and who agreed to participate in this study by oral informed consent. They underwent a complete clinical examination, laboratory workup, ECG, cardiac ultrasound. Statistical analyzes were performed using SPSS 24.0 software. The significance level was retained for a value of p < 0.05.

Results: Fifty patients were enrolled during this study. The average age was 57 ± 10 years, and 92% were married, 58% of whom were on the monogamous diet. Erectile dysfunction was moderate in 52% of cases, severe in 26% and mild in 22% of cases. The main cardiovascular risk factors associated with erectile dysfunction were age, high blood pressure (58%), dyslipidemia (48%), smoking (36%), diabetes (28%), physical inactivity (26%), abdominal obesity (22%). The association of hypertension and diabetes was found in 20% and 60% of patients had at least 3 risk factors. According to the Framingham score, the risk was high in 48% of cases, moderate in 16% and low in 32% of cases. We noted an increase in the severity of erectile dysfunction with age (P = 0.024) and the presence of at least 3 cardiovascular risk factors (P = 0.017).

Conclusion: Our study shows that the prevalence of cardiovascular risk factors is high in patients with erectile dysfunction. The Screening and management of cardiovascular risk factors would improve the cardiovascular prognosis of patients with erectile dysfunction.

Key words: erectile dysfunction; cardiovascular risk; risk factors, Dakar.

Submission ID: 948

CLINICAL PROFILE AND BASELINE CHARACTERISTICS OF PERIPARTUM CARDIOMYOPATHY IN IBADAN, NIGERIA

Authors:

Okechukwu S Ogah, Olanike A Orimolade, Akinyemi Aje, Adewole Adebiyi, Abiodun M Adeoye

Cardiology Unit, Department of Medicine, University of Ibadan/ University College Hospital Ibadan, Nigeria

English Abstract:

Introduction: Peripartum cardiomyopathy (PPCM) is a form of cardiomyopathy characterised by left ventricular dysfunction presenting towards the end of pregnancy or in the months post-delivery where no other cause of HF is found. PPCM is associated with cardiac related morbidity and mortality and impaired quality of life in women who have the condition. Nigeria has the highest burden worldwide. There is regional difference in burden and features in Nigeria. It is less common in southern Nigeria. The aim of this paper is to describe the clinical characteristics of PPCM in Ibadan, south-west Nigeria.

Methods: We reviewed 52 cases of PPCM seen in Nigerian Women at the University College Hospital Ibadan between 2016 and 2019. Total of 28 cases were seen. Descriptive statistics were used in summarizing the data.

Results: The mean age at presentation was 30.8±6.6 years (age range 18 – 46 years). The mean BMI was 22.9Kg/M2. Majority were from the low socioeconomic group (42/80.8%). Most (45/86.5%) presented postpartum, and usually at 4 weeks following delivery. Majority were primiparous, twin pregnancy was seen in five(9.6%) and PIH occurred in 10 (19.2%). None used tocolytics. Heart failure was the commonest mode of presentation.

Conclusion: PPCM in Ibadan is relatively a disease of primiparous women from poor homes.

Keyword: Cardiomyopathy, Peripartum cardiomyopathy, Pregnancy, Heart failure.

Submission ID: 946

ABDOMINAL FAT AT CT-SCAN AND CARDIO-METABOLIC RISK IN A GROUP OF CAMEROONIAN WOMEN

Authors:

Valerie NDOBO KOE, Martine ETOA ETOGA, Sylvain ZEMSI, Amadou BA, Alain MENANGA, Samuel KINGUE, Jean Claude MBANYA, Pierre ONGOLO ZOGO, Eugène SOBNGWI

Cameroon

English Abstract:

Background: In our daily clinical practice, waist circumference is the most widely used determinant of abdominal fat. However, it is not very accurate, and cannot help us differentiate subcutaneous fat from visceral fat, which is known to be correlated with cardio-metabolic risk. The gold standard for this evaluating remains CT scan but is difficult to access in our context, due to the cost.

Methods: We performed a cross-sectional analytical study, from September 2010 to February 2011 at the Yaoundé Central Hospital. Our study population was made up of women without diabetes, stratified according to their body mass index. We looked at socio-demographic data, waist circumference, CT-scan fat measurements, insulin sensitivity and finally the correlation between these three measures.

Results: We enrolled 48 women, in this study. Their average age was 28 ± 6 years. Their average BMI was 28 kg/m^2 [19-39]. Those with BMI $\geq 30 \text{ kg/m}^2$ (obese) had higher abdominal adiposity with an average waist circumference of $107 \pm 7 \text{ cm}$ and total fat at CT scan of $698 \pm 98 \text{ cm}$. Our population had poor insulin tolerance assessed using the KITT short insulin tolerance test with an average of $1.69 \mu\text{U/min}$. There was no significant difference in the different groups $p = 0.062$ $r = 0.271$. It was not correlated with waist circumference $p = 0.056$ $r = 0.278$ but was correlated with CT scan fat measurements $p = 0.032$ $r = 0.310$, and more precisely with visceral fat $p = 0.009$ $r = 0.375$.

Conclusion: This study shows that visceral abdominal fat is better correlated with insulin sensitivity than subcutaneous fat and that waist circumference is not a reliable reflection of total abdominal fat.

Key words: cardio-metabolic risk, abdominal fat, CT scan.

Submission ID: 942

VITAMIN K ANTAGONIST RESISTANCE DUE TO MUTATIONS IN THE GENES ENCODING VITAMIN K EPOXIDE REDUCTASE COMPLEX SUBUNIT 1 (VKORC1)

Authors:

DIA Khadiatou, MBOUP Waly Niang, DIEDHIOU Ismael, KA Mame Madjiguene, Ndao Serigne Cheikh Tidiane, BA Djibril Marie, BALDE Demba Ware, MBOUP Mouhamed Cherif, FALL Pape Diadie

Cardiology department Hospital Principal Dakar, Senegal

English Abstract:

Introduction: Vitamin K Antagonist (VKA) resistance is defined as a daily dose of acénocoumarol more than 8 mg or warfarin more than 10 mg. Genetics factors affecting the vitamin K Epoxide reductase complex subunit 1 (VKORC1) may be associated with resistance or hyper sensibility to VKA.

Methods: We reported the cases of three patients who had resistance to VKA despite the use of very high dose.

Results: Case 1. A woman of 36 years presented recurrent pulmonary embolism despite 16 mg of acénocoumarol. No food or medication was found that could inhibit the effect of acénocoumarol. Despite 16 mg of VKA, her International Normalized ratio (INR) never exceeded 1.2. The resistance to acénocoumarol was confirmed by the identification of a missense Val66Met of the VKORC1.

Case 2. A 65-year-old man was using acénocoumarol for non-valvular atrial fibrillation. Even with 16 mg daily dose of acénocoumarol, his INR was always below the therapeutic target. Genetic analysis showed a mutation of Cys-58 Ala of the VKORC1

Case 3. A woman of 29 years old was admitted for pulmonary embolism after her delivery. She received high doses of warfarin but we never reach good INR despite 20 mg of VKA. Genetic analysis showed a heterozygote mutation T383G responsible of a substitution of Leucine by Arginine in 128 location.

For all of these patients, VKA was switched with direct oral anticoagulant. Evolution was good for the three without embolic recurrence.

Conclusion: Genetic causes of resistance to VKA are certainly rare but must be sought systematically in case of unexplained resistance to VKA. These genetic tests must be done as much as possible despite their high cost.

Keyword: resistance to vitamin K antagonist, acénocoumarol, warfarin, VKORC1.

Submission ID: 967

SUPER HYPERTENSION IN A SUB-SAHARAN COUNTRY: EPIDEMIOLOGICAL, CLINICAL, THERAPEUTICAL AND EVOLUTIVE PATTERNS

Authors:

NGONGANG OUANKOU CHRISTIAN, CHENDJOU KAPI LEANA ORIANE, MFEUKEU-KUATE LILIANE, SIMENI NJONNOU SYLVAIN RAOUL, OUANKOU MÉRIMÉE DÉBOZARD, NGU BLACKETT KATHLEEN

Faculty of Medecine and Pharmaceutical Sciences of University of Dschand, Cameroon

English Abstract:

To describe the epidemiological, clinical, therapeutical and evolutive patterns of super hypertension in Yaounde University Teaching Hospital.

This study is an observation cohort over a period of 9 months (January 2016 to September 2016). We recruited from members of the public who accepted voluntary blood pressure screening offered in various localities in Yaounde, and were aged 18 years or over.

Of a total of 6.519 people, 1.875 (28.8%) presented a high blood pressure. Amongst them, 37 presented a super hypertension (a systolic blood pressure $\geq 250 \text{ mmHg}$ and/or diastolic blood pressure $\geq 150 \text{ mmHg}$ in presence or not of complications), corresponding to a prevalence of 2% of all hypertensive patients. Our cohort comprised 33 of these individuals who accepted the invitation to participate in the study. The mean age was 49.3 years, with a sex-ratio of 0.7. Twenty-three (70%) of the patients were known hypertensive for a mean time of 10 years, out of 9% were regularly reviewed, but none on medications. The mean of cardiovascular risk factors was 7, with 91% who had an excess salt intake. Dyspnea and headache were the main symptoms. The means systolic blood pressure and diastolic blood pressure were respectively 244.9 mmHg and 144.8 mmHg . Twenty-six (78.8) patients were either overweight or obese. We noticed a fundoscopy stage II or III in 21.1% of the cases. Seventy percent of the cases had left ventricular hypertrophy on electrocardiogram and 18.2 on echography. Complications were noticed on admission in 60.6% of all cases, it's was mainly signs of renal failure. Acute kidney injury occurred in 15.15% of the cases during follow-up. The average rate of blood pressure control over 6 months was 3%. The main cause of poor blood pressure control was lack of therapeutic compliance. We noticed refractory high blood pressure in 4 (12.1%) cases and registered one death at the 3rd month of follow up due to acute kidney injury.

Super hypertension is a youth's pathology. Its early detection reduces significantly the high morbi-mortality. However, its efficient management needs minimal additional resources.

Key words: superhypertension, cardiovascular risk factors, morbi-mortality.

Submission ID: 958

ATRIAL FIBRILLATION: PREVALENCE, ETIOLOGIES AND TREATMENT. CROSS-SECTIONAL STUDY ABOUT 45 CASES AT THE CARDIOLOGY DEPARTMENT OF THE IDRISSE POUYE GENERAL HOSPITAL IN DAKAR

Authors:

Aliou Alassane NGAIDE, Ngone Diaba GAYE, Maimouna SOW, Alassane MBAYE

University Cheikh Anta DIOP of Dakar, Senegal

English Abstract:

Introduction: Atrial fibrillation is a supraventricular arrhythmia characterized by uncontrolled atrial electrical activity with the main consequence of impaired mechanical function of the atria. Our objective was to evaluate his care in the cardiology service of the General Hospital Idrissa POUYE.

Methods: This is a descriptive prospective study from October 1, 2018 to June 30, 2019. All patients hospitalized in the cardiology department of HOGIP were included in the study. during the study period and with atrial fibrillation confirmed by the electrocardiogram. A sheet comprising socio-demographic data, diagnosis, clinical situation and comorbidities, anticoagulant and rhythmic management, complications and quality of life was used for data collection. Data analysis was performed with Epi info version 7 software. The difference was statistically significant when the p-value was less than 0.05.

Results: Forty-five (45) patients were included in our study with a predominance of women (60%). The mean age was 64.5 ± 15.0 years and the hospital prevalence of atrial fibrillation was 6.2%. Dyspnea was the main symptom, found in 68.9% of patients and palpitation in 4.4%. LVEF was altered in 46.7%, spontaneous contrast was found in 4.4% and intra OG thrombus in 6.7%. AF was of valvular origin in 20% non-valvular in 80% with predominantly CMD (26.7%). Slower treatment was initiated in 86.7% of cases with digoxin (46.7%), beta-blockers (46.7%) and digoxin-beta-blocker (7.7%). Reduction has amiodarone (4.4%) and electrical cardioversion (6.7%). VKA were used in 80% of cases and AOD in 4.4%.

Conclusion: Carried out by Our study shows a frequency of hospitalizations for atrial fibrillation with a relatively old population and a predominance of women. Etiologies were dominated by dilated cardiomyopathy. The treatment was exclusively medicinal based mainly on digoxin, beta-blockers and anticoagulation based on acenocoumarol.

Keywords: anticoagulation. atrial fibrillation, arrhythmia.

Submission ID: 952

1 MONTH MORBIMORTALITY OF PATIENTS PRESENTING WITH ACUTE HEART FAILURE AT MUSTAPHA BACHA A2 CARDIOLOGY DEPARTMENT

Authors:

Djermane Dalila, Djouhri Messaouda, Haddad Assia, MM. Baouni, Katia Mouzaoui, Fouzia Benouareth, Dahimen Nawel, Walid Zikara, Samira Abrouk, Salim Benkhedda

CHU MUSTAPHA CARDIOLOGIE A2, Algérie

English Abstract:

Background: Prevalence heart failure patients is increasing worldwide due to the aging of the population linked to improvements managing coronary artery disease and hypertension, which remain the main etiologies. The prognosis of this pathology remains bad.

Objectives and method: A monocentric prospective study enrolling

consenting patients over 18 years old admitted in our department presenting with acute heart failure from January 2018 to August 2019 is performed in order to determine their prognosis and epidemiologic profile with a follow up of one month.

The primary endpoint is a combination of death, re-hospitalization, worsening of heart failure and major cardiovascular events including stroke.

Results: 221 patients are enrolled. Mean age is 63 years old. Sex ratio is 1.63. Hypertension (59%) is the main cardiovascular risk factor, 45% are diabetics and 16% unveiled active smokers. Ischemic etiology (34%) is the most common followed by hypertensive heart disease (19.5%), cardiomyopathies (13%), and valvular heart disease (12%). The one month morbimortality is $20\% \pm 5\%$ assed by Kaplan Meier method.

Conclusion: Screening and early management of AHF should be part of the continuum of acute coronary syndromes and hypertension. The identification of subjects at risk justifies the development of specific registries to improve the outcome and reduce morbidity and mortality.

Submission ID: 953

CLINICAL CHARACTERISTICS OF CARDIAC ARRHYTHMIAS IN PEDIATRIC AGE GROUP

Authors:

Sally ElSawaf, seham Badr, Mohammed setieha, Raghda Ghoneimy, Suzan Bayoumi

Egypt

English Abstract:

Introduction: Rhythm disturbances in pediatrics have wide variety of presentation that can be misdiagnosed and may be totally silent asymptomatic. Studying pediatric arrhythmia is challenging and essential for their treatment and prevention of deleterious effect on the growing heart.

Patients and methods: 253 cases under the age of 18 years presented with arrhythmia to Tanta university hospital cardiology and pediatric departments. Patients with physiological causes and critical illnesses were excluded. Each patient underwent history taking, physical examination, echocardiography, 12 lead ECG at rest and during arrhythmia if possible, 24-hour Holter monitoring and exercise ECG testing.

Results: The age of the studied patients ranged from 1st day (at birth) till 18 years. 9 patients aged less than 1 month, 56 patients 1-12 months and 188 patients older than 1 year). The study has 114 male patients and 139 female patients. 6 mothers did have SLE and gave birth to babies with congenital heart block. Positive family history of arrhythmia and/or sudden cardiac death was found in 10.6 % of the study patients. Palpitations was the most common presentations of arrhythmia in our study patients (32%). 20.6 % of the study patients with arrhythmias were asymptomatic and discovered by mother or doctor. Congenital heart anomalies were in 43 % of the patients. Holter monitoring were a helpful diagnostic tool in 22.9% of the study cases. Exercise ECG stress testing helped in diagnosing in 5.9% of the cases. 103 cases of the study patients received medical anti arrhythmic treatment. 81 cases of the study population had catheter ablation. 44 cases of the study had permanent pacemaker insertion. 22 cases were just followed up. 3 cases had an ICD insertion.

Conclusion: Pediatric arrhythmia can be totally asymptomatic and discovered accidentally. Family history and pre-natal history are important factors in pediatric arrhythmia. Congenital cardiac anomalies and cardiac arrhythmias are closely correlated. Untreated or persistent arrhythmia causes LV myopathy and dilatation. Antiarrhythmic drugs can have their harmful effect on the growing child.

