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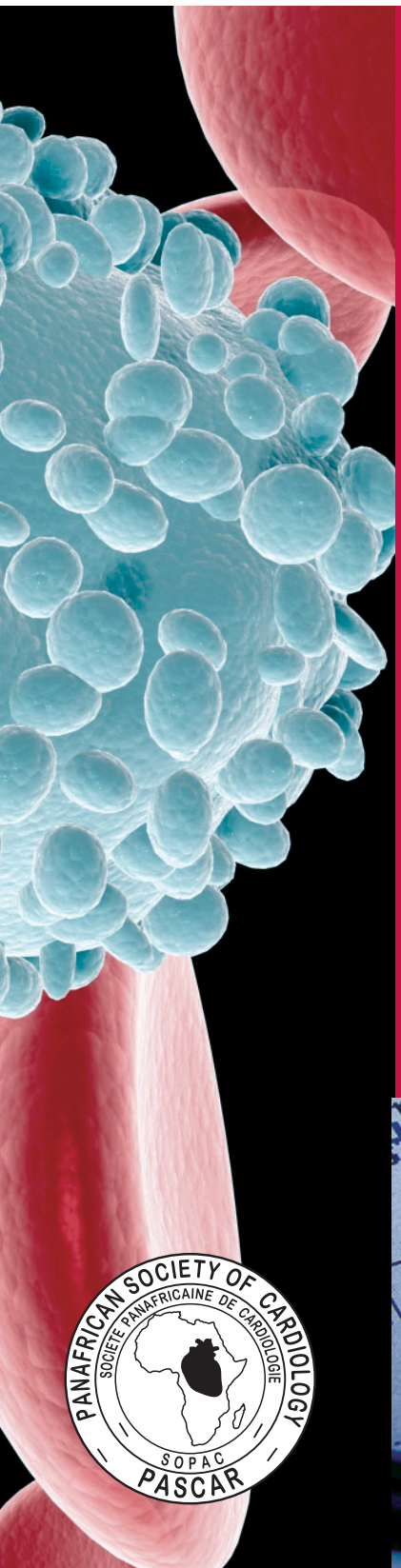

Africa STEMI Live! 2019

25 - 27 April 2019

Radisson Blu Hotel, Nairobi, Kenya

Disclaimer:
The Abstracts for the Africa STEMI Live! 2019 was reviewed by the PASCAR Interventional Task Team and not by the Editor-in-Chief, Regional Editors or reviewers of the Cardiovascular Journal of Africa. Only accepted abstracts are published.

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STEMI Live! 2019 Program

FRIDAY	26th APRIL 2019		MT KENYA 1,2,3
	MORNING		
Time	**Topic**	**Speaker**	**Panelist**
06:30	**Pre-Registered Delegates Registration**		
	NEWLY REGISTERING DELEGATES – Main Foyer on First floor		
08:30 - 09:45	**STEMI LIVE!** FROM GOA TO MOMBASA STEMI care as demonstrated in different settings.	Harun Otieno (F) Habib Gamra (F) Mohamed Jeilan (F) Swaleh Misfar Kieran Mwazo Arif Varvani Guruprasad Naik	Mahmoud Sani Robert Welsh Chris Granger Derek Chin Simon Mwaura Benjamin Wachira Muthoni Ntonjira James Kayima Awad Mohamed Sanjeevkumar Kalkekar
10:00 - 10:15	**STEMI news in 2018/9**	Ahmed Suliman	Ahmed Suliman Adie Horak Robert Welsh Parag Patel Chris Granger Sheila Omangathe
10:15 - 10:30	**Drug therapy innovations**	Harun Otieno	
10:30 - 10:45	**Myocardial Infarction Normal Coronary Arteries (MINOCA)**	Sanjeevkumar Kalkekar Chris	
10:45 - 11:00	**Resuscitation innovations**	Chris Granger	
11:00 - 11:30	**ECG innovations Live!**	Charit Bhograj	
11:30 - 12:00	**Tea Break** **Abstracts Live! - Acute Coronary Syndromes (In Foyer)**	Mzee Ngunga Kais Battikh	
12:00 - 12:30	**State of the Art** Antiplatelet therapy in ACS: A plethora of choices	Robert Welsh	Chris Granger David Kettles Mzee Ngunga
12:30 - 13:00	**Keynote Presentation** “Wealth and health” – The impact of socioeconomic status on the natural history of CVD	Bernard Gersh	David SIlverstein Mahmood Sani Tatizo Shemu
13:00 -13:40	**State of the Art** Imaging 2019 “State of the art”	Jeroen Bax	Derek Chin Saad Subahi Mohamed Jeilan
14:00 - 15:00	**Lunch** **Abstracts Live! – Interventional Cardiology**	Mzee Ngunga Kais Battikh	

FRIDAY	26th APRIL 2019		MT KENYA 1,2,3
	AFTERNOON		
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15:30 - 16:00	**State of the Art** The Apple watch, the LINQ and silent AF	Chris Granger	Bernard Gersh Bernard Gitura
16:00 - 16:30	**Problem Solving Session - Hypertension**	Harun Otieno	Daniel Gikonyo Adie Horak Jamal Nasiruddin Bernard Gersh Elijah Ogola Anders Barasa
16:30 - 17:00	**Key Note Presentation** The resuscitation and return of spontaneous circulation of renal denervation therapy	Bernard Gersh	Fred Bukachi
17:00 - 17:30	**Problem Solving Session - Dyslipidaemia**	Erick Njenga	Fred Bukachi Nancy Kunyiha Daniel Gikonyo
17:30 - 17:45	**Wrap up**	Erick Njenga	
17:45 - 18:00	**Imaging - Prize winning case**	To be determined by panel of judges	
18:00 - 18:30	**Evening Tea Break** **Abstracts Live! – Case Reports**	Mzee Ngunga Kais Battikh	

FRIDAY	26th APRIL 2019		MT ELGON 1,2
	MORNING		
Time	**Topic**	**Speaker**	**Panelist**
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15:00 - 16:00	**Aortic Valve Replacement** Transcatheter and under local anaesthetic Live and in 1 hour	Jonathan Byrne Mohamed Jeilan Derek Chin	Adie Horak Samir Ahnia Jonathan Byrne Rob Welsh Prem Ponoth Robert Mathenge
16:00 - 16:30	**State of the Art** Imaging in structural intervention	Jeroen Bax	Derek Chin Robert Welsh Habib Gamra Nashwa Ahmed
	Coronary Intervention		
16:30 - 17:30	**The Panafrican Course on Interventional Cardiology (PAFCIC)** 20th Anniversary. Instructive cases.	Habib Gamra Kais Battikh Mohamed Jeilan	Charles Kariuki Parag Patel Jonathan Byrne
17:30 - 17:45	**Intervention - Prize winning case**	Kais Battikh	Nashwa Ahmed Martin Murage James Kayima Anthony Gikonyo
17:45 - 18:00	**Wrap up**	Anthony Gikonyo	
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SATURDAY	27th APRIL 2019		MT KENYA 1,2,3
	MORNING		
Time	**Topic**	**Speaker**	**Panelist**
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09:30 - 09:45	**Heart failure** – Acute HF man-agement strategies	Derek Chin	Yagoub Musa Habib Gamra Charles Kariuki David Kettles Salim Hassanali
09:45 - 10:00	**Heart failure** – Acute cardio-genic shock. Principles and drug options and mechani-cal support strategies	Jonathan Byrne	
10:00 - 10:15	**LV Assist Devices and Trans-Plants**	Selma Mohammed	
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11:30 - 11:45	**Discussion**	Ahmed Suliman	
11:45 - 12:15	**State of the Art** Valve interventions for heart failure.	Robert Welsh	Jonathan Byrne Mohamed Jeilan Peter Ogutu Jeroen Bax
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SATURDAY	27th APRIL 2019		MT KENYA 1,2,3
	AFTERNOON		
Time	**Topic**	**Speaker**	**Panelist**
14:00 - 14:30	**Key Note Presentation** "From CREOLE to infinity" Lessons in African Healthcare Research	Elijah Ogola	Gerald Yonga Felix Barasa
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15:45 -16:00	**Cardiovascular Research Challenges in Africa** –A suggested roadmap	Gerald Yonga	
16:00 - 16:30	**Key Note Presentation** Clinical trials and tribulations, registries and confounders "Things may not always be as they seem"	Bernard Gersh	Harun Otieno
16:30 - 17:00	**Best research and case report prize and award**	Mzee Ngunga	Martin Murage

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Article

English Title:

Factors Associated with Cardiac Dysfunction Post Anthracycline – Facida Study

Category:

Heart failure

English Abstract:

Introduction: Anthracyclines are associated with improved survival from various malignancies, but with associated irreversible cardiotoxicity, which is only partially dose dependent. Early detection of cardiotoxicity provides an opportunity for early discontinuation. Several parameters have been suggested to predict later development of symptomatic cardiac dysfunction. The FACIDA study aims to evaluate factors and advanced echo parameters as predictors of the development of cardiac dysfunction in a sub-Saharan African population.

Methods: Five-hundred and three patients received anthracylines (mean age/S.D - 47.5/12.05years). The most common malignancies - breast (66%), lymphoma (19%), leukaemia (5%) and sarcoma (4%). The anthracylines administered were Doxorubicin use (Conventional-320, 69.72%; Liposomal-25, 5.43%), Epirubicin (110, 24.0%), Daunorubicin (3, 0.65%) and Idarubicin (1, 0.22%). Patients (n=199; 43.5%) without a recorded pre-anthracycline echocardiogram were excluded. Eligible patients will undergo echocardiographic assessment as well as baseline clinical characteristics, concomitant drug and radio-therapy and cardiovascular risk factors (diabetes, dyslipidemia, HIV, Systemic arterial hypertension, smoking history, alcohol use, cardiovascular medication use, and the presence of a family history of cardiac disease). Baseline and follow up global longitudinal strain and ejection fraction will be compared.

Anticipated application of results: Information will be provided on the application of clinical and echo parameters for the early detection of anthracycline cardiotoxicity sub-Saharan African in a population, whose baseline clinical characteristics differ from the better understood Western populations. As a more sensitive marker of cardiac dysfunction, the utility of global longitudinal strain imaging will be evaluated.

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Article

English Title:

Effect of Collateral Circulation on Left Ventricular Systolic Function in Patients with Totally Occluded Artery Undergoing PCI

Category:

Case Reports and Case Series

English Abstract:

Background: Over the past three decades, accumulating evidence has been documented that pre-existing well-developed CCC at the onset of acute myocardial infarction plays an important role in preserving left ventricular function, reducing infarct size, preventing left ventricular aneurysm formation, and survival.
Objective: To evaluate the effect of collateral circulation as measured by Rentrop score on left ventricular regional and global systolic function in patients with totally occluded vessel pre and post PCI and the ensuing impact of successful PCI.
Methodology: Sixty patients have single vessel coronary chronic total occlusion with viable myocardium of CTO related territories, successful revascularization at ERMED and ICS, between June 2017 and December 2018, were considered to participate in this prospective study. The study subjects were divided into three groups according to Rentrop score , each group comprised 20 patients : Group (I) Rentrop score 0 , Group (II) Rentrop score 1 and Group (III) Rentrop score 2.
Results: There was no statistically significant difference between the three groups regarding the incidence of diabetes, smoking and hypertension. There was a high statistically significant difference in EF between each group after revascularization; EF was higher in group (III) than in groups (I) and (II). There was statistically significant difference in WMSI comparison between each group after revascularization WMSI was lower in group (III) than group (I) and group (II).
Conclusion: In general, the increase Rentrop score before revascularization led to an improvement in WMSI and EF after successful revascularization with improvement of quality of life.

Keywords: Coronary collateral circulation, CTO, PCI.

Abbreviation and acronyms : ATCP =Atypical chest pain, CABG = Coronary artery bypass graft, CAD = Coronary artery disease, CCC = Coronary collateral circulation, CCs = Collateral channels, CMR = Cardiovascular magnetic resonance, CTO = Chronic total occlusion, EF = Ejection fraction, ERMED = Egyptian Railway Medical Center, HTN = Hypertension, ICS = International cardio scan, LAD = Left anterior descending artery, LCX = Left circumflex artery, LV = Left ventricle, MACE = Major adverse cardiac events, OMT = Optimum medical therapy, PCI = Percutaneous coronary intervention, RCA = Right coronary artery, SD = Standard deviation, SOB = Shortness of breath, TIMI = Thrombolysis in Myocardial Infarction

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Article

English Title:

Sudan STEMI Reperfusion Survey: Hospital Readiness and Physicians Knowledge

Category:

Acute Coronary Syndromes and Myocardial Infarction

English Abstract:

Introduction: Coronary artery disease (CAD) is a leading cause of death and disability-adjusted life years lost worldwide . ST-elevation myocardial infarction (STEMI) caused by occlusion of epicardial coronary arteries is one of the major manifestations of CAD. Prompt diagnosis and administration of effective therapy saves lives and reduces morbidity.
Objective: To study hospital electrocardiogram (ECG), thrombolysis and percutaneous angioplasty (PCI) capability as well as physicians knowledge regarding the key management points of STEMI.
Methods: An online survey of emergency room physicians in hospitals in different states in Sudan on ten questions regarding the different metrics for STEMI management . A principal investigator provided data on the volume of total and STEMI admissions and ECG,thrombolysis and PCI capability.
The ten key survey questions regarding diagnosis and reperfusion therapy in STEMI were: time of first medical contact (FMC) to ECG, ECG criteria for diagnosis of STEMI, time target of reperfusion therapy from onset of symptoms, of fibrinolytic therapy from ECG diagnosis, of repeat ECG from time of fibrinolysis administration , ECG criteria for successful thrombolysis, absolute contra-indications for fibrinolysis,time target of primary PCI from FMC, indications for referral to PCI capable centre after successful and unsuccessful thrombolysis.
Results: A total of 197 physicians were surveyed. The correct responses for the ten survey questions was 48% of total answers.All hospitals were 24-hour ECG capable except one, nine hospitals were thrombolysis capable, and four were PCI capable.
Conclusion: Most hospitals surveyed are 24-hour ECG capable, while not all offered thrombolysis. Access to PCI remains limited in Sudan. Physicians' knowledge regarding management of STEMI in Sudan remains poor.

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Article

English Title:

The Impact of a Dedicated Six-Month Pascar Pacing Fellowship Training to a Physician in Rural Western Kenya

Category:

Heart Failure

English Abstract:

Background: I trained as a non-invasive cardiologist and practices in Eldoret a town in the western part of Kenya, serving a population of more than 23 million. In 2016 I received a dedicated six-month pacing fellowship sponsored by the Pan African Society of Cardiology (PASCAR) at the University of Cape Town, South Africa, with the objective of increasing access to pacing services for indigenous populations. Patients requiring pacing had to travel about 400 miles to the capital city prior to my training. I report the impact of my training and pacing outcomes after having established regular pacing services in western Kenya.
Methods: We retrospectively looked at data on paced patients within Eldoret town over two years from 2017 to 2018.
Results: A total of 84 patients received pacing services, 79 new implants, and five box exchanges. All new cases (100%) required pacing because of acquired atrioventricular block. Their ages ranged from 39 to 94 years, with the mean age 67 years. Most (58%) were older than 65 years, and 52% were males. Sixty per cent of the devices inserted were single-chamber devices. Adherence to clinic follow up was 100%, 95% and 90% at weeks two, three months, and one-year post discharge, respectively. Complications included lead dislodgement (5/79 [6.3%]), infection 3/79 (3.8%), sudden cardiac death in two cases (2.5%), and lead perforation in one case (1/79 [1.2%]).
Conclusion: Acquired AV-block was the only indication for pacing, with single-chamber devices comprising 60% of implants mainly because of costs. Lead dislodgement was the most common complication followed by infection.

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Article

English Title:

ACS Registry

Category:

Acute Coronary Syndromes and Myocardial Infarction

English Abstract:

Authors: Ghada A. kazamel MD,Hany I. ragy MD, ahmed magdy MD,mohamed sleem MD, Mohamed helmy MD,Basem zarif MD.,farid elgendy MD, Medhat M.elsayed MD, Khaled ElTohamy MD, tarek abdeghafar MD, Abdelkader A.Elbakery MD, waleed Abass MD

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Background: There is sparse Egyptian data in the modern era of ACS care, we attempted at obtaining a registry of ACS patients for one year at NHI, the country's largest public cardiology hospital. The aim of the study was to evaluate Egyptian ACS patients' demographics, current management and outcomes.

Patients and methods: Data for 886 patients admitted as in-patients from 1/6/2011 to 31/12/2012 included 656 (74%) males and 230 (26%) females. Of these, 482 (54.4%) were admitted with STEMI, and 404 (45.6%) with other ACS (NSTE-MI and UA). Of the 482 STEMI patients, 373 (42%) were males and 109 (12%) were females. Of the other ACS patients, 283 (31%) were males and 121 (13.6%) were females; the mean age of the entire group was 54.7 years (range 24-92). There were 484 (54.6%) current smokers; diabetes mellitus was present in 375 patients (42.3%); and hypertension in 348 patients (39.3%). Dyslipidaemia was reported by 31% of patients on admission but routine, in-hospital lipid sampling showed that in reality, 540 patients (60.9%) were dyslipidaemic; while 267 patients (30.1%) were obese (BMI above or equal to 30).

Results: Thrombolytic therapy was used in 264 of 482 STEMI patients (54.7%), coronary angiography and PPCI was used in 180 of 482 STEMI patients (37%) and 46 of 404 other ACS patients (11%). There were also 39 rescue PCI (14.7%) of the 264 patients who initially received thrombolytic therapy. Thirty-eight STEMI patients did not receive thrombolytic or PCI (7.8%) because of late presentation and stable condition in 16 patients, and inconclusive ECGs in 22 patients; 867 of 886 patients survived (97.9%), while 19 died in hospital (2.1%).

Conclusion: Patients are younger than international registries, there is underutilisation of PPCI even in hospitalised patients who arrive on time. Streptokinase thrombolysis remains the dominant revascularization strategy, NSTEMI patients rarely receive early invasive therapy during the index hospitalisation, and only for the most hemodynamically unstable. The revascularization numbers have improved compared to older studies, with an in-hospital mortality of 2.1% for the entire patient cohort and 4.5% in-hospital mortality for the PCI group.

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Article

English Title:

Influence of Risk Factors on In-Hospital Outcomes in Women Presenting with Acute Coronary Syndrome in a Tertiary Care Center

Category:

Acute Coronary Syndromes and Myocardial Infarction

English Abstract:

The aim of this study is to assess the influence of risk factors on in-hospital outcomes in women presenting with acute coronary syndrome.

Background: Cardiovascular disease is the cause of death in 55% of women compared to 43% of men. Acute coronary syndrome risk factors increase the likelihood of disease. Clinical research studies have demonstrated that effective risk factor reduction results in decreases in ACS morbidity and mortality.

Patients & method: the study included a total of 207 cases admitted in cardiology department, National Heart Institute, Egypt, chosen by simple random sample technique. A case record form was used included modifiable and non-modifiable risk factors, physical findings, investigations, diagnosis, interventional procedures and in-hospital outcome.

Results: In the current study, it was noticed that LV dysfunction was the most frequent outcome, 13% for moderate reduction in LV function and 6% for severe reduction. Of those who had diabetes, 53.6% had developed mild to moderate LV dysfunction and 69.2% had severe LV dysfunction. There was no statistical significant difference regarding death between STEMI and NSTEMI.

Conclusion: The results of this study have demonstrated that there was a significant association between death and family history of IHD (P=0.05). PCI can reduce mortality among ACS females, as 88.2% of those who survived had undergone PCI.

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Article

English Title:

Thrombolytics Availability for Stemi Care in non-PCI Health Care Facilities in Kenya

Category:

Systems of Care in STEMI

English Abstract:

Background: Few healthcare facilities in Kenya have the capacity to offer primary PCI to STEMI patients. Most of the non-PCI centres would be believed to offer thrombolytic therapy before patients' timely referral to PCI-capable centres. There is a scarcity of data regarding the availability and use of STEMI care drugs and the overall system of STEMI care in non-PCI centres in Kenya. The aim of this study is to evaluate the availability and use of STEMI care facilities across Kenyan hospitals.

Methodology: Fifty-six STEMI trained health care providers selected from 36 county and referral non-PCI hospitals in an evenly distributed spread across Kenya responded to a predefined survey questionnaire about the availability of STEMI care therapeutics and on existing referral systems. Data was transcribed and analysed using SPSS v. 23 (IBM corp. 2015).

Results: Of all participants, 58.9% were medical doctors whereas 37.5% were nurses or clinical officers. Only 23.2% reported availability of one or more type(s) of thrombolytic drugs (streptokinase, alteplase, and tenecteplase) in their respective hospitals. Reportedly, the more the facility has ECG, defibrillator and troponin-testing facilities, the more likely they also have fibrinolytic therapies available ($p<0.001$). Of those who can offer thrombolytic therapy, 46.1% reported administration of thrombolysis within 30 minutes of STEMI diagnosis, while 53.9% can offer that treatment within or more commonly after an hour.

Of 39 respondents who do not possess thrombolytics in their hospitals, only 10 (25.6%) are able to transfer patients to a thrombolysis or PCI-capable centre within one hour. Of those who can offer thrombolytic therapy in their hospitals, only 46.1% reported transferring patients to a PCI-capable centre after thrombolysis.

Conclusions: Findings from this survey demonstrate challenges at multiple tiers in delivering quality STEMI care within the healthcare system in Kenya. There is a strong need to improve the availability of STEMI drugs as well as early referral of patients to PCI-capable centres.

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Article

English Title:

Resuscitation Preparedness in Kenyan Hospitals: A Nationwide Survey of ACS-Focused Healthcare Providers

Category:

Acute Coronary Syndromes and Myocardial Infarction

English Abstract:

Background: Comprehensive systems of management of ACS require preparedness for the common eventuality of cardiac arrest, and appropriate resuscitation systems of care must be in place. Most patients in Kenya first present to county and/or referral hospitals, but little is known about how health care providers in those facilities or in other similar settings are equipped for resuscitation. We surveyed local champions in ACS care to evaluate existing systems of care.
Methodology: Sixty-four ACS-focused providers, who were selected from 44 county and referral hospitals in an evenly distributed spread across Kenya, responded to a predefined survey questionnaire about their experience delivering STEMI care services. Data were transcribed and analysed using SPSS v. 23 (IBM corp. 2015).
Results: Of all participants, 54.7% were doctors, of whom 10.9% were physicians and 43.8% medical officers. Nurses were 32.9%, while clinical officers and others were 9.1% and 3.1%, respectively. Although most respondents were BLS and ACLS certified (71.9% and 62.5% respectively), physicians and nurses were more likely to be BLS and ACLS certified compared to medical officers ($p<0.001$). Of all the participants, 75% said that their hospitals did not have an ACLS ambulance equipped with a 12-lead ECG and/or a defibrillator. Moreover, only 7.8% knew about ways of transmitting ECG findings from the ambulance to a health facility. About one fourth (23.4%) reported having no working ECG machine in their hospital at the time of the survey. Regarding the availability of ACS/STEMI care protocols, close to one third (29.7%) knew about their existence and use or about cardiac arrest protocols (31.3%) in their hospitals. More than a half (53.1%) of respondents reported a lack of designated resuscitation teams at their hospitals, regardless of their level of training or geographic location.
Conclusions: Findings of this survey demonstrate that a significant number of healthcare facilities in Kenya lack appropriate resuscitation systems to deliver quality ACS/STEMI care. The most urgent need should be to focus on providing adequate training on ACS pathways and protocols.

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Article

English Title:

Thrombosis – The Silent Killer

Category:

Case Reports and Case Series

English Abstract:

The author will present a series of four cases of pulmonary thromboembolism that were either not prevented the way they should have been or were misdiagnosed – some resulting in mortality. This will emphasise the need for prophylaxis after surgery – especially for total hip and knee replacement, and the need for prophylaxis in any patient who will meet one of the Virchow's triad.

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Article

English Title:

Cardiogenic Shock Complicating Acute Myocardial Infarction: Monocentric Experience of Cardiology Department of Monastir (Mirami Registery)

Category:

Acute Coronary Syndromes and Myocardial Infarction

English Abstract:

Introduction: Cardiogenic shock (CC) is considered a devastating complication of the ST elevation acute myocardial infarction (STEMI). Although there has been a huge progress in critical care and coronary revascularization, its mortality remains high.

Materials and methods: This is a retrospective, mono-centric study including 267 patients from the MIRAMI (MonastIR Acute Myocardial Infarction) registry between 1995 and 2016. These patients presented a CC complicating a STEMI which occurred at admission or during their hospitalisation. We studied the clinical and paraclinical features of these patients and analysed the predicting factors of their in-hospital mortality.

Results: The incidence of CC was 15%, mostly in men (77.9%). The mean age was 64.18 ± 12.5 years. Smoking was the most frequent risk factor (62.5%). Diabetes and hypertension occurred in 44.9% and 34.5% of patients, respectively. The mean delay from symptoms onset to hospitalisation was 5 ± [3, 10] hours. Anterior territory of the STEMI was the most frequent (53.2%). Half of the patients had a multi-vessel disease and the LAD was the culprit artery in 48.3% of cases. The adopted treatment strategy in emergency was ether early invasive strategy (primary or rescue PCI) (42.6%), thrombolysis (31.1%) or conservative medical treatment (31.8%). In-hospital mortality was 49.1%. In a uni-variate analysis, in-hospital mortality predicting factors were: age ≥ 60 years (p=0.019), diabetes (p=0.003), hypertension (p<0.001), altered left ventricular ejection fraction <30% (p=0.002), anaemia (p=0.001), renal failure (p<0.001), hyperglycaemia (p<0.001) and mechanical ventilation (p<0.001). In multivariate analysis model, only renal failure (p<0.001) and the use of invasive mechanical ventilation (p<0.001) were considered as independent predicting factors of in-hospital mortality.

Conclusions: The incidence of cardiogenic shock is significant with a high in-hospital mortality. The treatment strategy should be based on an urgent and multi-disciplinary approach.

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Article

English Title:

Percutaneous Coronary Intervention for Chronic Total Occlusion: Short and Medium Term Results

Category:

Acute Coronary Syndromes and Myocardial Infarction

English Abstract:

Introduction: Coronary chronic total occlusion (CTO) angioplasties are considered the most complex of angioplasties requiring experienced operators as well as many specific materials and techniques.
Purpose: This study aims to identify the predictors of success or failure of CTO angioplasty and to evaluate the short- and medium-term results of this procedure.
Material and methods: This study is a single-centric retrospective comparative study including patients who underwent CTO angioplasty in the cardiology “A” department at Fattouma Bourguiba Hospital between January 2008 and December 2015.
Results: Our study included 200 patients with attempt of CTO angioplasty. The mean age was 63±8.63 years and the mean number of cardiovascular risk factors was 2.67. Acute coronary syndrome was the main indication (57.5%) for coronarography. A multi-truncal coronary status was reported in 53.5% of the cases. The mean J-CTO score was 1.42±1.3 and 44% of lesions was estimated difficult to very difficult. The anterograde approach has been the most used technique. The angiographic success of ATL has been reported in 106 patients (53%). DES were implanted in 69.9% of cases. The leading cause of angioplasty failure was the impossibility to cross the lesion by the wire. The procedural complications oc¬curred in 11.5% of cases. The independent predictors of ATL failure were: dyslipidaemia, a bending >45 degrees ($p<0.001$), a diameter of the occluded vessel <3 mm ($p<0.001$) and JCTO score ≥ 2 ($p<0.001$). Short- and medium-term clinical follow-up showed that the success of ATL, compared to failure, decreased significantly the rate of angina recurrence ($p<0.001$), re-hospitalization ($p=0.012$) and major adverse cardiovascular events “MACE” ($p=0.006$), but without significant impact on mortality.
Conclusion: The results of our study showed a clinical benefit of CTO angioplasty in case of success and demonstrated once more many failure-predicting angiographic factors.

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Article

English Title:

Clinical Predicting Factors of In-Hospital Mortality in Cardiogenic SHOCK Complicating a STEMI: MIRAMI Registry

Category:

Acute Coronary Syndromes and Myocardial Infarction

English Abstract:

Introduction: Cardiogenic shock (CC) is considered a devastating complication of the ST elevation acute myocardial infarction (STEMI). Its mortality remains high although the huge progress in critical care and coronary revascularization.
Aim: We aim to determine the clinical predicting factor of in-hospital mortality in CC complicating acute STEMI in the MIRAMI registry.
Materials and methods: This is a retrospective, mono-centric study including 267 patients from the MIRAMI (MonastIR Acute Myocardial Infarction) registry between 1995 and 2016. These patients presented a CC complicating a STEMI which occurred at admission or during their hospitalisation. We studied the clinical and paraclinical features of these patients and analysed the predicting factors of their in-hospital mortality.
Results: The incidence of CC was 15%, mostly in men (77.9%). The mean age was 64.18 ± 12.5 years. Smoking was the most frequent risk factor (62.5%). Diabetes and hypertension occurred in 44.9% and 34.5% of patients, respectively. The mean delay from symptoms onset to hospitalisation was 5 ± [3, 10] hours. Anterior territory of the STEMI was the most frequent (53.2%). Half of the patients had a multi-vessel disease and the LAD was the culprit artery in 48.3% of cases. The adopted treatment strategy in emergency was ether early invasive strategy (primary or rescue PCI) (42.6%), thrombolysis (31.1%) or conservative medical treatment (31.8%). In-hospital mortality was 49.1%. In a uni-variate analysis, in-hospital mortality predicting factors were: age ≥ 60 years (p=0.019), diabetes (p=0.003), hypertension (p<0.001), altered left ventricular ejection fraction <30% (p=0.002), anaemia (p=0.001), renal failure (p<0.001), hyperglycaemia (p<0.001) and mechanical ventilation (p<0.001). In multivariate analysis model, only renal failure (p<0.001) and the use of invasive mechanical ventilation (p<0.001) were considered as independent predicting factors of in-hospital mortality.
Conclusions: The incidence of cardiogenic shock is significant with a high in-hospital mortality. The treatment strategy should be based on an urgent and multi-disciplinary approach.

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Article

English Title:

Biological Predicting Factors of In-Hospital Mortality in Cardiogenic SHOCK Complicating a STEMI: MIRAMI Registry

Category:

Acute Coronary Syndromes and Myocardial Infarction

English Abstract:

Introduction: Cardiogenic shock (CC) is considered a devastating complication of the ST elevation acute myocardial infarction (STEMI). Although there has been a huge progress in critical care and coronary revascularization, its mortality remains high.

Aim: We aim to determine the biological predictive factors of in-hospital mortality in CC complicating acute STEMI in the MIRAMI registry.

Materials and methods: This is a retrospective, mono-centric study including 267 patients from the MIRAMI (MonastIR Acute Myocardial Infarction) registry between 1995 and 2016. These patients presented a CC complicating a STEMI which occurred at admission or during their hospitalisation. We studied the biological features of these patients and analyzed analysed the predicting factors of their in-hospital mortality.

Results: The incidence of CC was 15%, mostly in men (77.9%). The mean age was 64.18 ± 12.5 years. Smoking was the most frequent risk factor (62.5%). Diabetes and hypertension occurred respectively in 44.9% and 34.5% of patients. The mean hemoglobin and creatinine rates were respectively 12.5 ± 2.3 g/dl and 142.2 ± 88.26 µmol/l, respectively. Anaemia was found in 105 patients (39.3%) and significantly more often in elderly (≥ (≥ 60 years) (p< 0.001). Renal failure was diagnosed in in 159 patients (59.6%) mainly in women and the elderly (p< 0.001 respectively). Hyperglycaemia was found in 163 patients (61%). Leukocytosis was found in 186 patients (69.9%). Elevated myocardial necrosis markers (CPK, LDH and troponin) was found in most patients. In- hospital mortality was 49.1%. Biological predicting factors of in-hospital mortality in a univariate analysis were: anaemia (p=0.001), renal failure (p<0.001), hyperuraemia (p=0.002), hyperglycaemia (p<0.001), CPK > 500 500 mmol/l (p=0.04) and LDH > 5000 mmol/l (p=0.024). In a multivariate analysis, only renal failure was restrained as an inde¬pendent predicting factor of in-hospital mortality (p< 0.001).

Conclusions: The incidence of cardiogenic shock is significant with a high in- hospital mortality. The treatment strategy should be based on an urgent and multi-disciplinary approach taking into account all the biological abnormalities.

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Article

English Title:

Reperfusion Strategy in Patients with STEMI Complicated by Cardiogenic SHOCK: MIRAMI Registry

Category:

Acute Coronary Syndromes and Myocardial Infarction

English Abstract:

Introduction: Cardiogenic shock (CC) is considered a devastating complication of the ST elevation acute myocardial infarction (STEMI). Although there has been a huge progress in critical care and coronary revascularization, its mortality remains high.
Aim: We aim to determine the impact of the reperfusion strategy on in-hospital mortality in CC complicating acute STEMI.
Materials and methods: This is a retrospective, mono-centric study including 267 patients from the MIRAMI (MonastIR Acute Myocardial Infarction) registry between 1995 and 2016. These patients presented a CC complicating a STEMI which occurred at admission or during their hospitalisation The reperfusion strategy was either thrombolysis, early invasive strategy (primary or rescue PCI) or conservative medical treatment. We studied the impact of these strategies on in-hospital mortality.
Results: The incidence of CC was 15%, mostly in men (77.9%). The mean age was 64.18 ± 12.5 years. Smoking was the most frequent risk factor (62.5%). Diabetes and hypertension occurred in 44.9% and 34.5% of patients, respectively. Thrombolysis was performed in 83 patients (31.1%) with a mean delay of 4.2 ± 2.9 hours and a success rate of 45.8%. Early invasive strategy was performed in 114 patients (42.7%) (primary PCI in 98 patients and rescue PCI in 15 patients) with a raising trend over the study period. The success rate of the early invasive strategy was 63.2%. Conservative medical treatment was mainly indicated in late presenting STEMI (65.9%). Differed invasive strategy was realised in 64 patients (24%), PCI was performed in only 39 patients (61%) but with a success rate of 87.2%). In-hospital mortality was 49.1%. No reperfusion strategy adopted in emergency has shown its superiority in reduction of the in-hospital mortality in a univariate analysis. The reperfusion failure in thrombolysis or early invasive strategy was predictive of in-hospital mortality ($p=0.001$ and $p<0.001$, respectively). Differed invasive approach was associated with a significant reduction in the in-hospital mortality compared to the early invasive strategy ($p=0.005$). No reperfusion strategy-related parameter was restrained as an in-hospital mortality predicting factor in the multivariate analysis.
Conclusions: The incidence of cardiogenic shock is significant with a high in-hospital mortality. The treatment strategy should be based on an urgent and multi-disciplinary approach.

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Article

English Title:

In Hospital Mortality from Acute Myocardial Infarction : Evolution and Predictors According to the Mirami Registry

Category:

Acute Coronary Syndromes and Myocardial Infarction

English Abstract:

Introduction: Ischemic heart disease is the leading cause of death in the world. Acute myocardial infarction (AMI) represents so far the most serious clinical entity. Thanks to advances in pharmacological and reperfusion endeavours, a significant reduction in the in-hospital mortality has been reported worldwide.
Aim: This study sought to describe the evolution of the in-hospital mortality post AMI between 1995 and 2015 and to identify the predictors of this mortality.
Methods: This is a retrospective, mono-centric, descriptive and analytical study from the MIRAMI register including 1686 patients admitted for AMI in the cardiology department of the “Fattouma Bourguiba” University Hospital in Monastir, between January 1995 and December 2015.
Results: The mean age of our population was 60.48 ± 12.64 years with a significant male predominance (80.8% vs 19.2%). The main cardiovascular risk factors were smoking (66.5%), diabetes (37.8%), hypertension (31.3%) and dyslipidaemia (11.6%). A history of ischemic heart disease was noted in 199 patients (11.8%) of whom 46.2% were revascularized. The mean first medical contact delay was 4.76 h ± 4.93 h. This delay was significantly longer in the deceased subjects (p=0.002). Medical transport by SAMU was noted in 43.7% of patients who also had a non-significant excess mortality (p=0.385). The anterior and inferior location were the most frequent (51.7% and 44.1%) but without significant difference in terms of in-hospital mortality (p=0.063). At admission, heart failure was noted in 21% of patients and the deceased subjects had more cardiogenic shock (p<0.001). Urgent reperfusion was achieved in 58.7% of cases (24.4% for primary angioplasty (PAMI) and 30% for thrombolysis), with a general trend towards PAMII despite statistically significant variations (p<0.001) during the periods. Nevertheless, PAMI was associated with higher mortality (p=0.005). Angioplasty with balloon and the TIMI 0/1 flow were predictors of in-hospital mortality in the univariate analysis (p<0.001). Thrombolysis was performed essentially by streptokinase with a mean delay of 3.92 ± 2.79 h. Pre-hospital thrombolysis was observed in 37.20%. In-hospital mortality was 9.6% (162 patients), but statistically insignificant fluctuations over the years were reported (p=0.133). The two leading causes of death were cardiogenic shock (43.20%) and ventricular arrhythmia (20.37%). In multi-variate analysis, four independent predictors of in-hospital.

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Article

English Title:

ECG Findings for Risk Stratification In Acute Pulmonary Embolism

Category:

Acute Coronary Syndromes and Myocardial Infarction

English Abstract:

Backgroud: Risk stratification in acute pulmonary embolism (PE) is crucial for identification of patients with a poor prognosis. We aimed to investigate the ECG alterations of right bundle branch block (RBBB) and SIQIII-type patterns for risk stratification in acute PE.
Methods: Retrospective analysis of PE patients, treated in the cardiology department (A) and anaesthesiology Department, was performed. Patients with RBBB and/or SIQIII-type were compared with those without both patterns. Logistic regression models for association between these ECG alterations and respectively right ventricular dysfunction (RVD), high-risk PE status were analysed.
Results: Patients (n=287) were included for this retrospective analysis. Of 103 patients, 35,8% had RBBB, and 66 (2,2%) had SIQIII-type patterns, moreover, 50% of patients having SIQIII pattern, also had RBBB. The presence of RBBB is significantly associated with the presence of thrombus in right ventricule (71,4%), right congestive heart failure (40%) and right ventricular dysfunction mostly when associated with SIQIII paterns. Cardiogenic shock was observed in 53,33 % of patients having RBBB, then intra-hospital mortality increased in 51,4% patients with RBBB-associated SIQIII patterns. More than half of the patients (52%) had proximal involvement during pulmonary angioscanning when RBBB was present on ECG.
Conclusion: RBBB and SIQIII-type patterns were both associated with RV overload and cardiac injury. New-onset RBBB is likely to increase right heart failure, cardiogenic shock and intra-hospital mortality. These findings suggest the importance of the RBBB and SIQIII pattern as important criteria in risk stratification of PE, and must be included in the new score stratification of the future international guidelines.

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Article

English Title:

Prognostic Value of New-Onset Right Bundle-Branch Block in Acute Myocardial Infarction Patients: From the MIRAMI Registry

Category:

Acute Coronary Syndromes and Myocardial Infarction

English Abstract:

Backgroud: Patients with acute myocardial infarction (AMI) and bundle-branch block have poor prognoses. The new European Society of Cardiology guideline suggests a primary percutaneous coronary intervention strategy when persistent ischaemic symptoms occur in patients with persistent ischaemic symptoms and right bundle-branch block (RBBB), but the level of evidence is not high. In fact, the presence of RBBB may lead to the misdiagnosis of transmural ischaemia and mask the early diagnosis of ST-elevation myocardial infarction STEMI). Moreover, new-onset RBBB is occasionally caused by AMI. Our study aims to investigate the prognostic value of new-onset RBBB in AMI.
Methods: One thousand eight hundred and one patients were admitted in the cardiology department (A) for STEMI and included in the MIRAMI register. Moreover, we studied patients having presented during the hospitalisation a recent RBBB. The characteristics related to the occurrence of these RBBB as well as the prognosis correlated to them are described.
Results: The mean age of patients with RBBB is 63,6 year sversus 63,5 years with left bundle branch block (LBBB), the sex ratio is four in those with RBBB versus 2,5 with LBBB. Of the patients, 45% with RBBB had hypertension and 10% of them had dyslipidaemia. Heart failure was present in 2,6% of patients with RBBB versus 5% in those with LBBB. Ventricular arythmia occured in 25% having RBBB versus 22% with LBBB. Cardiogenic shock was observed in 36,6% of patients with RBBB versus 36% with prior LBBB. Of twenty-three patients in cardiogenic shock, 65% had RBBB. The anterior localisation of the infarct is predominant in patient having RBBB (56,3%) .Mortality is higher in patients with prior RBBB (59% versus 41%; p=0,043).
Conclusion: New-onset RBBB is likely to increase long-term mortality, ventricular arrhythmia, and cardiogenic shock, but not heart failure in AMI patients. AMI patients with new-onset transient RBBB have a lower risk of short-term mortality than those with new-onset permanent RBBB. Revascularization therapies should be considered when persistent ischaemic symptoms occur in patients with RBBB, especially new-onset RBBB.

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Article

English Title:

Impact of Amiodaroen on QT Interval in the Amiotox Registry

Category:

Acute Coronary Syndromes and Myocardial Infarction

English Abstract:

Backgroud: Amiordarone is the most used antiarrhythmic in Tunisia. The excessive prolongation of the QT interval can occur as one of the cardiac side effects that results from the mechanism of action of the molecule itself, but potentially proarrhythmic.
Methods: Between May 2010 and September 2011, 171 patients receiving amiordarone for more than six months were prospectively included in the AMIOTOX registry (Registry of patients treated by amiodarone for atrial fibrillation). The electrical modifications were collected by repeated ECGs. QT prolongation was considered significant from a corrected QT interval >320 ms or 340 ms, respectively, in men and women. The aim of the study is to describe the incidence and predictors of QT elongation in the AMIOTOX registry.
Results: Among the 171 patients included in the registry, 30 (17.5%) patients had a long QTc interval at the ECG (QTc duration: 0.42 to 0.45 ms). After multi-logistic regression, the independent predictors of QT prolongation retained were heart failure (p=0.05, OR = 2.69, 95% CI [1.02-7.42]), and duration of treatment (p<0.001; = 1.01 for each additional month of treatment, 95% CI [1.007-1.023]).
Conclusion: QT prolongation is an undesirable effect of the recovered amiodarone in 17.5% of cases. The predictive factors are heart failure and duration of treatment. This last population seemed to be sensitive with a worsening of the effect with the duration of the treatment.

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Article

English Title:

Prevention of Atrial Fibrillation with Statins in STEMI

Category:

Acute Coronary Syndromes and Myocardial Infarction

English Abstract:

Backgroud: While the role of statins in the primary and secondary prevention of atrial fibrillation (AF) currently has little evidence, their postoperative benefit from cardiac surgery is well proven and currently recommended. The existence of an effect similar to the acute phase of acute coronary syndromes with persistent ST-segment elevation (SCA ST +) is however not known.
Methods: To study the correlation between statin intake in the acute phase of coronary syndrome with ST-segment elevation (STEMI) and the occurrence of AF in the MIRAMI registry.
Results: Among the 1588 patients admitted to the acute phase of STEMI, 91 (6.6%) experienced a switch to AF. Of the patients 579 (41.7%) received a statin at the acute phase of their STEMI. Statin therapy was found to be protective of AF reducing the risk of 7.7% in patients not receiving statins and 5% in patients treated with statins (p=0.0049). This effect is found only in the case of anterior localization of the infarct (5.5% vs 9.2%, p = 0.005), the difference is not significant in inferior localisation of the infarct (5.1% vs 6.8%, p = 0.37). The protective effect of statins disappears, however, in diabetics (7.5% vs. 8%, p = 0.86), hypertensive patients (7.6% vs. 7%, p = 0.29), and non-smokers (8.8% vs 9.1%, p=0.91).
Conclusion: Treatment with statins appears to protect against the occurrence of AF in the acute phase of STEMI in anterior localisation. This effect is more pronounced in the tobacco population with few cardiovascular risk factors (hypertension and diabetes).

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Article

English Title:

Primary PCI in STEMI: Data from Algeria

Category:

Systems of care in STEMI

English Abstract:

Introduction: Algeria is a big country, with land area more than one million and eight hundred thousand miles, comprising more than 40 million people. The maximum demographic concentration is in the north of the country, the south being a desert area. Health coverage is still a real challenge.
Study objectives: To evaluate patients and management delays. To assess management of patients undergoing primary PCI. To evaluate in-hospital patient outcome.
Study description: This is a retrospective monocentric descriptive study. Recruitment: Jan 2011 - Dec 2015. We included 396 consecutive patients undergoing primary PCI and hospitalised in our intensive care unit and did not include patients undergoing primary PCI who returned to their own facility. The data were analysed with EPI INFO7.
Results: Average age 57 years (male: 57 years, female: 60 years; p=0.03), 9% under 40 years. Risk factors: diabetes 27%, HTA 39.5%, known dyslipidaemia 8%, tobacco 47%. Average patient delay was about 280 min, the diabetics and women were the latest profiles to show up. The major symptom was the typical chest pain (76%) with 8% of heart failure symptoms and 1.5% cardiac arrest. The anterior wall was the major location (65%). The angiography was performed in half of the cases with a radial access, since 2014 almost all access were radials. Of the coronary injuries, 72% were single-vessel disease (70% LAD). Door to TIMI3 (32 min) use of Export: 54%(success rate 67%). Our decisions were balanced between direct stenting and stenting after preparation. We have little experience with differed stenting. Procedure success rate was about 90%.
Conclusion: Even in countries with a well-functioning health system, it is not always easy to obtain primary PCI within the recommended delays. Even with a good management of primary PCI in our country, due to a lack of territory coverage in primary PCI, this strategy cannot be the answer for the STEMI issues, so we have to considerate the pharmaco-invasive strategy for now.

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Article

English Title:

Biologic Deleterious Factors Associated with Congestive Heart Failure in the Democratic Republic of Congo

Category:

Heart Failure

English Abstract:

Background: In the DRC, heart failure is burdened with very high morbi-mortality. Unfortunately, biologic disturbances induced by the pathophysiology and the treatment of these conditions have not been sufficiently studied.
We aimed to highlight them and, for the most significant, look for associations with mortality and length of hospital stay.
Methods: The routine biology of 55 consecutive HF patients, received at the University Teaching Hospital and the Lubumbashi's Centre of Cardiology from November 2017 through January 2019, was compared with that of 29 clinically healthy subjects without a history of cardiovascular disease.
Through linear and logistic regression we determined associations between significant variables and mortality and length of stay in hospital.
Results: Patients with congestive heart failure had significantly higher mean levels of blood glucose (104 vs 88 mg%, p=0.03), uric acid (10 vs 6 mg%, p<0.01), total bilirubin(1.4 vs 0.7 mg%, p<0.01), direct bilirubin(0.8 vs 0.2 mg%, p<0.01), and more hypocalcaemia (47 vs 11%, p<0.01) and more elevated red cell distribution width (16 vs 13 %, p<0.01).
A negative correlation was found between uric acid and glomerular filtration rate (rho=-0.44, p<0.01), while there was a positive correlation with C-reactive protein (rho=0.45, p<0.01) and the white blood cell count (rho=0.35, p<0.01). Calcium was negatively correlated with C-reactive protein (rho=-0.45, p<0.01) and the white blood cell count (rho=-0.34, p<0.01).
In linear regression, calcium levels predicted length of stay (coefficient=-4.8, p=0.01, Adj R-square=0.24).
Five patients (9%) of 55 with congestive heart failure died during the study period. Uric acid (OR=1.3, 95%CI: 1.014- 1.776) and calcium (OR=0.08, 95% CI: 0.005-0.6) levels were the independent predictors of mortality.
Conclusion: In the DRC, congestive heart failure is a deleterious state with several biologic dysfunctions known as cardiovascular risk factors. Among them, hyperuricaemia and hypocalcaemia, correlated with renal dysfunction and inflammation, were significantly associated with morbidity and mortality.

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Article

English Title:

Knowledge, Attitude and Self-Care Practice Towards Control of Hypertension among Hypertensive Patients on Follow-Up at St. Paul's Hospital, Addis Ababa

Category:

Prevention (Hypertension and Diabetes)

English Abstract:

Background: Hypertension is the number one cardiovascular risk factor and the leading cause of mortality worldwide. It is the driver of the cardiovascular disease epidemic in Africa where it is a major, independent risk factor for heart failure, stroke and renal failure. There is no study to assess the level of knowledge of hypertension among hypertensive patients in our setup. The objective of this study was to assess knowledge, attitude and self-care practice towards the control of hypertension among hypertensive patients on follow-up at our hospital.
Methods: A total of 385 hypertensive patients who were on follow-up at cardiac clinic of the hospital were randomly selected for interview. The sociodemographic and relevant clinical data were extracted using a structured questionnaire. Operational definition and the Likert scale were used to compare the variables.
Results: Only 48.6% of hypertensive patients participating in this study had a good basic knowledge of hypertension, 47.8% of them had a good attitude and only 39.5% of them had a good practice towards hypertension control. Male sex, educational level and home address were strongly associated with the level of knowledge, attitude and self-care practice of hypertensive patients at our hospital.
Conclusion: The results state that there is an inadequate general knowledge about hypertension as well attitude, and self-care practice towards hypertension control among our hypertensive patients is generally poor. Health care professionals working in this area should focus on addressing such limitations of hypertensive patients. Focus should be given to hypertensive patients who are females, those with a low educational level and those from rural areas.

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Article

English Title:

Acute Stent Thrombosis in a Patient With Clopidogrel Non-Responsiveness: Case Report Confirmed by VerifyNow Test and Coro¬nary Angiography

Category:

Case Reports and Case Series

Link to Slides and/or Pictures:

Clopidogrel-Non-Responsiveness-in-Patients-with-STEMI.pptx

English Abstract:

Background: A 48-year-old women with diabetes mellitus and hypertension, BMI 40.3, recently diagnosed with STEMI, presented for elective coronary angiography (CA). She was on maintenance dose of clopidogrel, however, clopidogrel-loading dose was given to her before CA. LAD lesion was revealed by the CA and a stent was implanted. Fifteen minutes after discharging the patient from the cath lab to the ward, she developed severe chest pain.
Method: An ECG showed new STEMI. VerifyNow test was immediately done on her to check the responsiveness to clopidogrel and she was transported back to the cath lab.
Results: The VerifyNow test showed that the patient is clopidogrel non-responder (PRU 289, normal cut-off is <208). CA showed stent thrombosis. Prasugrel-loading dose was given to the patient and after 30 minutes the interventional cardiologist implanted a new stent successfully.
Conclusions: Globally, the phenomenon of clopidogrel non-responsiveness ranges from 5-44%, and is associated with lethal complications due to stent thrombosis. According to the American and European guidelines, using platelet function testing is considered as a class IIb for patients at high risk for poor clinical outcomes. Therefore, routine use of the platelet function test is not recommended. However, research is ongoing regarding measuring the frequency of clopidogrel non-responsiveness and the predicting factors. Most of the published data revealed that diabetes mellitus is the strongest factor associated with this phenomenon.

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Article

English Title:

Use of the “Minnesota Living with Heart Failure” Quality of Life in the Cardiology Department of the Casablanca University Hospital

Category:

Heart Failure

English Abstract:

Introduction: Quality of life is an important end-point in heart failure studies, as is mortality or the hospitalisation rate. The Minnesota Living with Heart Failure Questionnaire is the instrument most widely used to evaluate quality of life in research studies. We used this questionnaire to evaluate quality of life of patients with heart failure at the heart failure unit of the cardiology department of CHU IBN ROCHD Casablanca.
Patients and methods: A total of 188 patients with heart failure were recruited, followed or seen for the first time at the heart failure unit. At the moment of evaluation, the patients were clinically stable and on optimised drug therapy. Relationships were sought between questionnaire scores and different clinical and demographic factors.
Results: The mean age was 61±15 years, 102 women, 36% hypertensive and 53% diabetic, 67% were of ischaemic aetiologies, 28% valvular and 5% of indeterminate aetiology. The overall median score on the Minnesota Living With Heart Failure Questionnaire was relatively high (n=56). A strong correlation (P<.001) was found between score and functional class, sex (women had higher scores) and diabetes. A correlation was also found between questionnaire score and the number of hospital admissions in the previous year (P<.001), and aetiology (P=.01). A weak trend toward higher scores was seen with increasing age (P=.04). The highest scores were observed in patients with valve disease (n=48), the lowest in patients with ischemic heart disease (n=24).
Conclusion: The questionnaire scores were relatively high in our population. A strong correlation was found between questionnaire score and functional class, and with the number of hospital admissions in the previous year. These results suggest that the questionnaire adequately reflects the severity of the disease.

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Article

English Title:

Community Awareness of Sore Throat and Rheumatic Heart Disease in Northern Ethiopia

English Abstract:

Background: Rheumatic heart disease (RHD) remains the leading cardiovascular disease in Ethiopian children and adults. Early treatment of bacterial sore throat is important in primary prevention of acute rheumatic fever (ARF). In the Ethiopian population knowledge about RHD and its prevention strategies is expected to be limited but few studies have been done.
Aim: To determine awareness of RHD prevention in the community in northern Ethiopia.
Methods: A descriptive cross-sectional study was conducted in three districts of Tigray, northern Ethiopia. Using structured questionnaire adults >18 years selected by systematic random sampling were interviewed.
Results: A total of 1298 participants were included, 1004 (77.4%) were from rural areas, 978 (75.3%) were female and 823 (60.1%) had no formal education. Only 34 (2.6%) of the participants responded that the cause of sore throat is due to bacteria or virus and 6.2 % knew that there is a relation between sore throat and heart disease. Of the respondents, 43.3% would take children with sore throat to traditional healers, 71.6% had history of tonsillectomy/uvulectomy in their children or themselves. Only 7.8% answered that penicillin injection is useful in children with sore throat as primary prophylaxis and 8.1% answered that regular penicillin injection is useful as secondary prevention in RHD.
Conclusion: These results can help understand the beliefs and practices about sore throat in northern Ethiopia. We conclude that the community awareness on the cause and the link between bacterial pharyngitis and ARF/RHD is almost non-existent.

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English Title:

Acute Coronary Syndrome in Rwanda: An Educational Intervention to Increase Detection Rates and Improve Management and Outcomes

Category:

Acute Coronary Syndromes and Myocardial Infarction

English Abstract:

The epidemiological transition from infectious diseases to non-communicable diseases in sub-Saharan Africa is fuelled, in part, by increasing wealth and urbanisation, resulting in a detrimental lifestyle which causes an increased burden of chronic diseases including diabetes mellitus, hypertension, and obesity. These are known risk factors for developing cardiovascular disease, and along with additional risk factors have been shown to be on the rise in recent years in Rwanda. Given the increasing prevalence of established risk factors for cardiovascular disease and subsequently acute coronary syndrome (ACS) in Rwanda, it is possible—and even likely—that the burden of ACS is on the rise.

While ACS incidence is likely higher than in previous years, knowledge of the presentation, diagnosis, and management appears to be lagging in Rwanda. This education gap could result in missed diagnoses, improper care, and ultimately increased morbidity and mortality of patients with ACS. Moreover, patients in Rwanda who suffer ACS tend to be younger than those in Western countries—these patients are more likely to be in their productive years and the associated morbidity and mortality can have significant economic impact.

Given the insufficient knowledge possessed by healthcare personnel (pre-hospital emergency services, nursing staff, and physicians) on the assessment and management of ACS, it is clear that an appropriate education intervention is requisite. An extensive literature review demonstrates that no education initiatives for healthcare personnel designed for our region have been tested for efficacy.

Our group is currently delivering a multi-pronged education intervention at four hospitals in Rwanda which targets pre-hospital emergency services, emergency service nursing, and emergency physicians. We deliver a didactic session and a case-based discussion session, and place an ACS awareness and management poster in key areas in the emergency department. The effectiveness of this intervention will be determined by performing a before and after chart review of rates of diagnosis, standard of care management rates, and outcomes (including length of stay, ICU admission, and mortality). The intervention, if found to be efficacious, can be used to increase ACS detection and improved outcomes in similar settings in Rwanda and the region at large. Our goal is to become STEMI-ready by January of 2020 through this and other initiatives.

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Article

English Title:

Anticoagulation Practices in Percutaneous Coronary Intervention at a Sudanese Tertiary Hospital

Category:

Acute Coronary Syndromes and Myocardial Infarction

English Abstract:

Percutaneous coronary intervention (PCI) is the most commonly performed invasive therapeutic cardiac procedure and plays an important role in the treatment of ischaemic heart disease. PCI induces thrombin generation and is associated with risk of ischaemic events necessitating the use of anticoagulants. Both ischaemic and periprocedural bleeding complications are associated with acute and long-term mortality; thus a balanced use of anticoagulants is a crucial target.

Aims: To evaluate the anticoagulation practices in patients with acute coronary syndromes (ACS)/stable coronary artery disease (SCAD) undergoing PCI and investigate the incidence and frequency of ischaemic events/bleeding complications during and after the procedure.

Methods: This was a prospective cross-sectional study to describe the current status of anticoagulation in PCI at a tertiary teaching hospital during a three-month period.

Results: Of 90 patients included, 61 (67.7%) were males, NSTE-ACS represented 53.3%. All patients received parenteral anticoagulant for PCI, unfractionated heparin (UFH) was used solely in 97.7% (n=88) of them [mean dose of 106.76 IU/kg (±12.27, range 79- 143 IU/kg); 52.2% of doses was □100 IU/kg)], and enoxaparin was the drug of choice in the remaining 2.3%. Of those receiving UFH for PCI, 64.7% were pre-treated with enoxaparin (cross-over).

Bleeding occurred in 5.6 % (5) of the patients [using the thrombolysis in myocardial infarction (TIMI) score criteria for non-CABG-related major and minor bleeding], all cases were access-related minor bleedings and occurred at higher doses of UFH (100 IU/kg and above) while three of them (60%) occurred in patients pre-treated with enoxaparin. Judging by access-route; three (18.75%) of the radially accessed cases encountered bleeding vs two (2.7%) of femoral access. Catheter/stent thrombosis was encountered in one STEMI patient who received UFH; 100 IU/kg i.v. bolus and a top-up.

Conclusion: More than half of the patients underwent PCI with UFH doses above the upper limit of guideline-recommended doses and a high percentage of PCIs was performed using intra-procedural crossover of heparins (enoxaparin to UFH); a practice strongly discouraged. Further investigation is needed to study the relations of the current practice and observed outcomes

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English Title:

A Case of Right Atrial Aneurysm

Category:

Case Reports and Case Series

Link to Slides and/or Pictures:

PICTORIALS-CASE-REPORT-RIGHT-ATRIAL-ENLARGEMENT.docx
PITORIALS-CASE-REPORT-RIGHT-ATRIAL-ENLARGEMENT.docx

English Abstract:

Right atrial aneurysm, also known as idiopathic dilatation of the right atrium, is a rare abnormality of unknown origin. Approximately half of the patients with right atrial aneurysm show no symptoms. The diagnosis of a right atrial aneurysm can be established with echocardiography, computed tomography (CT) or magnetic resonance imaging (MRI) on the basis of morphologic and functional characteristics. Other conditions that result in right atrial enlargement, such as Ebstein's anomaly and tricuspid hypoplasia, may be confused for right atrial aneurysm .
Aneurysmectomy is usually recommended because of thromboembolic risk.
I report the case of a 50-year-old female diagnosed to have right atrial aneurysm on the basis of characteristics found on the CT coronary angiography.
The patient was referred for imaging after review by a cardiologist, who on echocardiography found a dilated right atrium with a thrombus and an incompetent mitral valve. A CT coronary angiography done revealed aneurysmal dilatation of the right atrium with an associated thrombus in the right atrial appendage, evidence of tricuspid regurgitation and moderated right ventricular dilatation. The patient also had a large pericardial effusion and ascites, suggestive of decompensated heart failure. Left ventricular ejection fraction was 62%. The patient had no evidence of significant coronary artery disease.

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Article

English Title:

The Travails of Bifurcation PCI: The Trapped, Unravelled Wire

Category:

Case Reports and Case Series

English Abstract:

Fracture, detachment and entrapment of coronary guide wires is an infrequent complication of percutaneous coronary interventions. However, the complexity of the approach for bifurcation interventions comes with a high frequency of side-branch wire entrapment. We report a case of side branch wire entrapment in a 56-year-old patient with an LAD-D1 bifurcation lesion planned for a DK-crush technique. The remnants were fixed to the coronary bed during intervention.

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English Title:

Missed Wellen's Syndrome Pattern vs ST-Elevation Myocardial Infarction (STEMI)

Category:

Case Reports and Case Series

Link to Slides and/or Pictures:

CASE-REPORT-STEMI-LIVE.pptx

English Abstract:

Cases of Wellen's syndrome have been reported worldwide, with typical presentation as ST-segment elevation myocardial infarction (STEMI) equivalent with proximal LAD (Left anterior descending artery) critical lesions and negative cardiac markers. Very few cases of atypical Wellen's syndrome have been reported to date. We present a 30-year-old female teacher who was referred to our hospital from a tertiary care centre upcountry, seven days after developing chest pain and ECG changes correlating with a diagnosis of non-ST-elevation myocardial Infarction (NSTEMI). The patient on arrival had ongoing chest pain with T-wave deeply inverted in the anterior ECG leads and negative cardiac biomarkers. Coronary angiography showed tight mid LAD stenosis of 95% severity which was non-thrombogenic. Angioplasty was performed and patient remained pain free till discharge. Workup for non-atherosclerotic causes in a young patient such as sickle cell trait, G6PD deficiency, thrombophillia, and autoimmune screening was negative. Whether this should be classified as missed Wellen's type acute coronary syndrome or STEMI is unclear.

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Article

English Title:

Acute Coronary Syndromes in the Cardiology Service and Internal Medicine of The Brazzaville CHU

Category:

Acute Coronary Syndromes and Myocardial Infarction

English Abstract:

Objective: To determine the epidemiological, clinical, therapeutic and evolutionary aspects of acute coronary syndromes.
Patients and method: A transversal retrospective and descriptive study was carried out in the cardiology department of the Hospital and University Centre of Brazzaville over 30 months. This study included 50 patients with chest pain associated with electrocardiographic changes.
Results: The prevalence of coronary syndrome was 2.3%. The mean age of the patients was 62.5 years ± 9.7. There were 30 men and 20 women. Cardiovascular risk factors were high blood pressure (n=45), dyslipidemia (n=22), diabetes (n=11), obesity (n=10), tobacco consumption (n=2). The average time for consultation was 102 ± 60 hours. Thoracic pain was typical in 31 patients. The area of ischaemia had interested the anterior area 28 patients. The syndrome was associated with ST-segment elevation in 26 patients. Troponin was positive in 17 patients.
Conclusion: Acute coronary syndrome is relatively rare at the Brazzaville University Hospital. Medical treatment is the most used strategy with some cases of complications and death.

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Article

English Title:

Diagnosis of Supra Ventricular Tachycardia : Predictive Value of Different Electrophysiological Maneuvers

Category:

Acute Coronary Syndromes and Myocardial Infarction

English Abstract:

Background: Narrow QRS tachycardia are tachycardia's whose QRS duration is less than 120 milliseconds, and are often due to supraventricular origin .The diagnostic is electrocardiographic , but the ECG aspects may lead to confusion, hence the need of electrophysiological maneuvers that are sometimes complex . The objective of our study is to establish the differential diagnosis between different supraventricular tachycardias (SVT) by electrophysiological maneuvers and discuss the contribution, the utility, foundation and limits of electro physiological maneuvers by analysing literature data.
Methods: Twenty-one patients who were referred to the cardiac electrophysiology department in CHU La Rabta Tunis for radiofrequency ablation for SVT were included from January 2016 to June 2016. Maneuvers of entrainment and reset, mesure of post pacind interval in the base and apex of right ventricule, parahissian stimulation. Different intervals are calculated and compared between two groups.
Results: Of the 21 patients , 11 had intra-nodal re-entry (AVNRT), ten had atrioventricular re-entry tachycardia (AVRT). The prahissian stimulation in sinus rhythm is interpretable in 6/11 (54,5%) and (7/10) patients with AVNRT and AVRT, respectively. The SA-VA interval is longer at the base than the apex in patients with AVNRT (148 ± 20 and 133 ± 16 ms, p = 0.007). The [SA-VA] apex - [SA-VA] base (ms) interval is measured at -9.4 ± 6.6 in patients with intra nodal tachycardia and 10 ± 11.3 ms in patients with AVRT (p <0.001). The Post Pacing interval – Tachycardia Cycle length interval is longer at the base than the apex in all patients with AVNRT (187 ± 44 and 169 ± 41, p=0.005) and shorter at the base than at the apex in patients with AVRT (88 ± 42 and 96 ± 39 ms, p <0.2). The Post Pacing interval –Tachycardia Cycle length differential interval Patients is – 18,45± 37 vs 4,53±34 ms, P=0,06 respectively in the group with AVNRT and AVRT.
Conclusion: Stimulation maneuvers are not always necessary in most cases of SVT. Stimulation or other maneuvers can not be applied to all patients, thus, multiple and combined criteria should be used for differential diagnosis of these tachycardia's with atypical characteristics. It is important to understand the phenomenon and circuits.

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Article

English Title:

Interest of Parahissian Stimulation the Diagnosis of Supra Ventricular Tachycardia

Category:

Acute Coronary Syndromes and Myocardial Infarction

English Abstract:

Background: The parahissian stimulation is a cumbersome technique that must be sometimes made to distinguish between several supraventricular tachycardia, when the diagnosis is difficult to be made by conventional maneuvers.This technique is useful to differentiate between atrioventricular nodal conduction and a retrograde conduction by septal accessory pathway.
Methods: Twenty-one patients who were referred to the cardiac electrophysiology department in CHU La Rabta Tunis for radiofrequency ablation for SVT were included. The parahissian stimulation was done for all patients.The responses are recorded and analysed.
Results: The parahissian stimulation was interpretable in six of 11 patients having atrioventricular nodal re-entrant tachycardia (AVNRT) and seven patients having atrioventricular tachycardia (AVRT) . In patients with AVRT, five of them had extra nodal response. The inability to interpret the response is because of a simultaneous stimulation of the atrium and ventricle with or without capture of the His bundle. In fact, all these patients with extra-nodal response had a septal accessory pathway.
Conclusion: The parahissian stimulation, a complex technique, is indicated in some cases when the diagnosis of supra ventricular tachycardia is difficult. The technique requires a multipolar catheter with a wide space between the bi-pole. However, this maneuver is imprecise in case of a left lateral accessory pathway, accessory pathway with decremental conduction, or finally, in case of the presence of right proximal retrograde bundle brunch block.

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Article

English Title:

Interest of the Transition Zone in the Mechanism of Supraventricular Tachycardia

Category:

Acute Coronary Syndromes and Myocardial Infarction

English Abstract:

Background: Right ventricular pacing during supraventricular tachycardia produces progressive QRS fusion before the QRS morphology becomes stable which is called the transition zone (TZ). This TZ may provide useful information for differentiating orthodromic reciprocating tachycardia (ORT) from atrioventricular nodal reentrant tachycardia (AVNRT) and atrial tachycardia (AT) independent of entrainment success.
Methods: We studied the effect of properly timed right ventricular pacing (RVP) on atrial timing during the transition zone in 21 patients referred to the Cardiac Electrophysiology Department in CHU La Rabta Tunis for radiofrequency ablation for SVT. These patients had RVP within 40 ms of the tachycardia cycle length. The TZ during RVP includes progressively fused QRS complexes and the first paced complex with a stable QRS morphology based on analysis of the 12-lead ECG.
Results: The TZ was analysed in most of the patients (19/21). In patients having AVNRT there is no perturbation to atrial activation delay in the TZ. However, of ten patients having ORT, eight had atrial pre-exitation, one patient had an atrial post-excitation and finally the ventricular pacing caused the cessation of tachycardia without atrial depolarization in one patient. A fixed stimulus atrial (SA) interval during the TZ has been identified in any patient with AVNRT.
Conclusion: During RVP within 40 ms of the tachycardia cycle length, ORT is the likely mechanism when atrial timing is perturbed or a fixed stimulus-atrial interval is established within the TZ.

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Article

English Title:

Acute Myocardial Infarction with ST Elevation: Delayed Management

Category:

Acute Coronary Syndromes and Myocardial Infarction

English Abstract:

Introduction: The progresses made in the treatment of acute coronary disease such as medicalised transportation and treatment based on thrombolysis and/or angioplasty is not available in our country.
The purpose of this work is to highlight the difficulties encountered in the management of 59 myocardial infarction patients with ST-segment elevation.
Method: We carried out a retrospective study from January 1 to December 31 2016 at the Cardiovascular Emergencies Unit of Point G Hospital. The enrolment of the patients was based on the admission register, the presence of myocardial infarction with an ST elevation and being treated until discharge or death.
Results: Most of the coronary syndrome patients presenting with ST elevation were male (80%) with an average age of 61 years of which 42% had a low education level. Around 60% of patients had consulted at all the three levels of the Malian health system before being admitting at our unit, and none of them had an ECG. If they obtained an examination or prescription, 40% of them had an abdominal ultrasound, 20% a digestive examination, and only 10% had a cardiovascular examination. The ECG diagnosis was performed mostly in private clinics (80%), only two patients (3.3%) were transported by ambulance, and 10% left their territory for Bamako. The average delay between the first medical contact and obtaining an ECG was 84 hours. Only one patient had specialised treatment within three hours after the first symptoms of chest pain. Eight (14%) and 39% of patients were medically managed within 12 and 24 hours after the onset of their chest pain, respectively. Despite the lack of doing coronary revascularization, there were therapeutic gains (fewer complications and deaths) if the patients had a specialised treatment within the first three, 12 and 24 hours. In total, 12% of patients died during hospitalisation.
Conclusion: Myocardial infarction with ST-elevation is a life-threatening, time-sensitive emergency that must be diagnosed and treated promptly by creating and organising a survival chain as done elsewhere

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Article

English Title:

Cardiovascular Emergencies at Point G Hospital

Category:

Systems of care in STEMI

English Abstract:

Introduction: The prevalence of cardiovascular diseases is increasing in Sub-Saharan Africa, and many of those pathologies are acute revelation which require emergency care.
The purpose of this study is to establish a registry of cardiovascular emergencies from admissions to the cardiovascular intensive care unit (ICU).
Method: This one-year cross-sectional study of patients admitted to the cardiovascular ICU at Point G Hospital of the main Cardiology Department of Mali, with sixty beds, includes six beds for cardiovascular patients only for monitoring and care. Our cardiovascular ICU is equipped with a cardioscope (with five electrodes), which allows us to dynamically display all standard leads continuously to better appreciate the appearance of P-waves and QRS as well as their ratio. Similarly, other haemodynamic and respiratory parameters were taken into account.
Results: The admission at the cardiovascular ICU accounted for 20.5% of all cardiac patients at the cardiology department of the Point G hospital, and most of them (59%) were male. We found that 92% of patients were referred by health structures in the district of Bamako and most of them (56%) through an inter-service transfer from the CHU Point G. The main reasons for admission were:
- severe cardiac or respiratory failure: acute heart failure (28.5%), heart rhythm disorders (10%), and decompensated chronic bronchopulmonary disease (COPD) (7.9%); and
- an acute cardiovascular disease: acute coronary syndrome with ST elevation (26%), pulmonary embolism (9.2%), stroke (5.3%), aortic dissection (2.6%).
The average length of stay in hospitals (ALSH) was 5 ± 2 days, and we found a statistical difference (p=0.000) between the average length of stay in hospitals and the diagnostic groups. Lethality from all causes was 19.7%.
Conclusion: Cardiovascular emergencies are a real public health problem in our countries with a high intra-hospital mortality rate. Their early care can be better organised to reduce the incidence associated with their high morbidity and mortality.

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Article

English Title:

STEMI in Young Patient, an Acute Left Main Thrombosis

Category:

Acute Coronary Syndromes and Myocardial Infarction

English Abstract:

Background: Acute thrombosis of the left main coronary artery in acute coronary syndrome is rare and has a very poor prognosis. Clinical manifestations are not specific and therapeutic decisions are often difficult to make, which is more true when the patient is young without any adaptation to ischaemia.
Case presentation: Our case is about a young 29-year-old smoking patient, who consulted for typical chest pain evolving for three hours. The patient was in shock at admission, the EKG showed an acute anterior STEMI. Performing a primary PCI, we found a large thrombus on the distal left main overflowing on the circumflex artery (CX), slowing the flow on this artery and a complete occlusion of left anterior descending artery (LAD). We placed the patient under intra-aortic balloon pump, and performed an instrumental thrombectomy with perfusion of GPIIIB IIa intra-coronary and intravenous therapy. We were able to restore a TIMI III flow on both LAD and CX arteries, and the patient soon stabilised. The culprit lesion was identified as a tight stenosis of ostial LAD, we decided to stop here and put the patient under close observation for 48 hours in an intensive care unit with intravenous perfusion of GPIIbIIIa for 24 hours planning our angiography control 48 hours later. At the angiography control we noticed a complete disappearance of the thrombus, the patient was free from significant coronary stenosis. Our patient had a good outcome with an ejection fraction around 48% at discharge.
Conclusion: Stable TIMI3 flow is the first aim of each primary PCI, delayed stenting aim to avoid distal embolisation and stent down-sizing, especially in young patients who sometimes do not have significant coronary lesions. This strategy must be adopted in certain situations only, and when ensuring the safety of our patients.

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Article

English Title:

True Left Main Bifurcation with Difficult LCX Access Treated with Reverse Wire and TAP Technique

Category:

Case Reports and Case Series

English Abstract:

A 64-year-old female, retired Nurse with type 2 diabetes mellitus and hypothyroidism. On 18 August 2018 she was admitted to the cath lab for a 10-hour ongoing inferior STEMI. Primary PCI was attempted but wire failed to cross the lesion. Tirofiban 25 micrograms/kg, clopidogrel 600 mg, aspirin 250 mg and heparin 100 UI/kg. Resolution of chest pain and ST elevation. In the critical care unit Contrast induced nephropathy and allergic rush reaction with favourable outcomes. Normal ejection fraction at discharge. Patient was left on medical treatment with scheduled reassessment.
Three months later severe angina developed. DI aVL and V4-V9 T-wave inversion at resting EKG. Normal resting echocardiogram. Angiography preceded by 100 mg hydrocortisone injection. Critical distal LM stenosis and a critical proximal left circumflex (LCx) stenosis with TIMI 2-flow. Mid LAD and distal LCX stenosis. Syntax I score 38. Patient refuses surgery!
We finally decided to attempt distal left main angioplasty with a 2-stent technique. Amplatz 6Fr was our choice in guiding catheter to optimize back up for LCX, femoral approach and two workhorse wires. A reverse wire technique was attempted and permitted to access the LCx and cross the lesions. Finally we finished the case with T-stenting and protrusion technique with two sirolimus eluting stents. In-hospital outcomes were free of complications. The patient was free from chest pain at three months.

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Article

English Title:

Acute Graft Failure in a CABG Patient

Category:

Acute Coronary Syndromes and Myocardial Infarction

English Abstract:

Early post CABG graft failure
A 54-year-old male with background Hx of HTN, DM, hyperlipidaemia, smoker with FHx of IHD, who presented with chest pain consistent with acute coronary syndrome. Coronary angio showed tight distal LMS , 3VD, CABG was done, LIMA to LAD, SVG to OM1. However, one month post-surgery he developed the same intensity of the pain, the second angio showed both grafts in which PCI to LMS was done being occluded.
Slide 1 Clinical presentation:
54 M
Hx of HTN and DM for 15 years.
Hyperlipidaemia, Obesity, Smoker
FHx of ischaemic heart disease
He presented with chest pain c/w ACS.
BMI 32
HR 110 bpm BP 150/90
SO2 94%
Chest, CVS, Abd were normal
ECG showed STE in AVR,V1 with ST depression in lateral leads
Normal CBC, RFT. High s.troponin.
Slide2:
Echo showed anterior and lateral wall hypokinesia, EF 40%.
Asprin 100 mg OD, clopidogrel 75 mg OD, bisoprolol 2.5 mg OD, candesartan 16 mg OD, rosuvastatin 20 mg OD, clexane 1mg/kg/SC BID, Soluble insulin S/C.
The patient developed syncope during admission, the monitor showed non-sustained VT.
Coronary angio showed tight distal LMS, 3VD, high syntax2 score.
CABG done during index admission.
One month post-CABG, patient developed the same chest pain, CCS class IV.
Coronary angio, one month post-CABG showed occluded left internal mammary artery graft and SVG.

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English Title:

Door to Balloon Time in St Elevation Myocardial Infarction Cases in Coast Region

Category:

English Abstract:

Background: There is very little African data available on door-to-balloon outcomes following myocardial infarction treated with primary percutaneous intervention procedures in Kenya.
Methods: The door-to-balloon outcomes obtained from Aga Khan Hospital Mombasa, which serves a population of approximately 900,000 people, was able to be compiled and reported using the National Cardiovascular Data Registry. All patients having primary percutaneous intervention for ST-elevation myocardial infarction had their data submitted in the ACC NCDR from August 2018 to February 2019. Patients were characterised into age, gender, insurance status and ethnicity, whether they presented to our facility directly or indirectly via a referral Centre.
Results: A total of 84 patients were submitted in the registry between August 2018 and December 2018. Of the patients, 72.6% were above 50 years of age, 21.4% between 40-49 years and 6% below 40 years. The male:female ratio was 3:1. Of the 84 patients, 64.3% were of African origin, 10.7% Caucasians and 25% Asians. Of the patients, 47.6% had health insurance cover other than the National Health Insurance Fund. Thirty-three of the patients had percutaneous intervention, and 51 had diagnostic coronary angiogram. Seventeen patients were treated with primary percutaneous intervention during the study period, three of them being indirect presentations after thrombolytic intervention. For patients presenting directly, door-to-balloon median time was 71 minutes, indirectly was 108 minutes.
Conclusion: The best outcomes were found among patients with direct referrals as compared to indirect. The use of thrombolytics should, however, be encouraged in external referral facilities as transfer strategies are developed.

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Article

English Title:

Development of the Certificate Course in the Management of Hypertension in Africa (CCMH-AFRICA)

Category:

Prevention (Hypertension and Diabetes)

English Abstract:

Introduction: In response to the call by the World Health Organization to reduce premature deaths from non-communicable diseases by 25% by the year 2025 (25x25), the Pan-African Society of Cardiology (PASCAR) in partnership with several organizations including the World Heart Federation have developed the 10-point urgent action plan to improve detection, treatment and control of hypertension in Africa. Priority 6 of this action plan aims to promote a task-shifting/task-sharing approach in the management of hypertension.
Objective: This capacity building initiative aims to enhance the knowledge, skills and core competences of primary health care physicians in the management of hypertension and related complications.
Methods: In a collaborative approach with the International Society of Hypertension, the British & Irish Hypertension Society, the Public Health Foundation of India and the Centre for Chronic Disease Control, the PASCAR hypertension taskforce held a continental faculty meeting in Kenya on the 25 and 26 February 2018 to review and discuss a process by which effective contextualisation and implementation of the Indian hypertension management course can be done on the African continent.
Results: A tailored African course in terms of evidence-based learning, up-to-date curriculum and on-the-job-training was developed with a robust monitoring and evaluation strategy. The course will be offered on a modular basis with judicious mix of case studies, group discussions and contact sessions with great flexibility to accommodate participant's queries. The first cycle kick-started in Sudan in November 2018, training 25 physicians and 75% of participants demonstrated good mastery of the course at the end of the training session.
Conclusions: Hypertension affects millions of people in Africa and if left untreated, is a major cause of heart disease and stroke. CCMH-AFRICA is the cornerstone educational programme for hypertension control in Africa. In the next ten years, it will train 25 000 certified general physicians and 50 000 nurses capable of adequately managing uncomplicated hypertension, thereby freeing the few available specialists for focus on severe or complicated cases.

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Article

English Title:

Sclerosing Mediastinitis Presenting as an Intracardiac Mass and Mimicking Pulmonary Embolism.

Category:

Case Reports and Case Series

Link to Slides and/or Pictures:

Pulmonary-artery.jpg
mediastinum.png
Mediastinal.png
Cardiac.png

English Abstract:

Dr. Mariah Obino, year-4 resident, Department of Radiology, Aga Khan University Hospital, Nairobi Kenya.
Background: Cardiac masses are a rare entity with benign aetiologies such as sclerosing mediastinitis being rarer. Sclerosing mediastinitis is a rare benign disorder caused by proliferation of acellular collagen and fibrous tissue within the mediastinum that may mimic a malignant process on imaging. There are two described types of sclerosing mediastinitis i). The idiopathic/non-granulomatous type which is an idiopathic reaction to autoimmune syndromes, use of methysergide or radiation therapy to the mediastinum. ii). The granulomatous type which is almost always an idiosyncratic response to infectious and inflammatory conditions most commonly tuberculosis and histoplasmosis in different endemic regions.
Case description: A 17-year-old male HIV-negative patient presented to a tertiary hospital with cough, difficulty in breathing, dyspnoea and intermittent fever for one year. He was started on anti-TB's and warfarin for suspected TB and pulmonary embolism, respectively. After days of not improving he was referred to our institution where laboratory investigations, electrocardiography and contrast enhanced CT of the chest were done with results as follows: Hb 10.1 g/dL, WBC 7.84, neutrophils 59% , and platelets 380.
Echo: A dilated right atrium with a mass seen adherent to the base of the right atrium, severe tricuspid regurgitation and severe right ventricular dilatation with trabeculations. Contrast enhanced CT Chest: An extensive soft tissue density mediastinal mass (without calcifications) encasing the mediastinal vessels and extending into the right atrium and right pulmonary artery with features of right sided heart failure. CT guided biopsy of the mass was obtained twice and histological sections of lung tissue showed benign fibrous tissue with no evidence of malignancy and negative ZN staining. A further open lung biopsy showed the same features of fibrosis. A diagnosis of idiopathic sclerosing mediastinitis was made.
C**onclusion:** The sequence of presentation in this patient reflects how idiopathic sclerosing mediastinitis (apart from being a rare entity) can present as a diagnostic dilemma such as an intra-cardiac mass (this will be the second case reported in literature) and propensity to infiltrate pulmonary vasculature which can mimic pulmonary embolism.

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Article

English Title:

Bone Scintigraphy Imaging of Cardiac Amyloidosis

Category:

Case Reports and Case Series

Link to Slides and/or Pictures:

pictures.docx

English Abstract:

Cardiac transthyretin (ATTR) amyloidosis is an aggressive, rapidly progressive and fatal disease for which several promising therapies are in development. This condition is frequently underdiagnosed because of the limited specificity of echocardiography and the traditional requirement for histological diagnosis. It is well known that 99 m technetium-labelled bone scan radiotracers can localize in the myocardial amyloid deposits but the use of this imaging modality to differentiate between the two subtypes has only lately been revisited. We report a case of a 76-year-old man with a clinical diagnosis of amyloidosis who underwent a bone scan which had features of cardiac transthyretin (ATTR) amyloidosis. To the best of our knowledge, this is the first case report in Sub-Saharan Africa.

Introduction: Cardiac amyloidosis is a rare cause of rapidly progressive restrictive cardiomyopathy and congestive heart failure. It is mostly difficult to diagnose and almost always associated with poor prognosis. There are two main subtypes of cardiac amyloidosis: transthyretin-related cardiac amyloidosis (ATTR) and cardiac light-chain (AL) amyloidosis. Differentiating the two is important, both for prognosis and management, and this was only possible through invasive biopsy procedures. Recently, however, bone scintigraphy has been shown to be able to reliably distinguish between the two. In this case, we report findings on bone scan that supported the diagnosis of ATTR cardiac amyloidosis.

Case Report: A 76-year-old male who had clinical suspicion for cardiac amyloidosis was referred to our department for bone scintigraphy to try and differentiate between the two main clinical subtypes. Planar whole-body images were performed in the anterior and posterior projections four hours after intravenous administration of 718 MBq (19.4 mCi) of 99 mTc methylene disphonate (99 mTc MDP). The bone scan images demonstrated diffusely increased tracer uptake in the heart and attenuated tracer uptake throughout the bones. Increased tracer uptake was also seen in the soft tissues of deltoid, gluteal and abdominal walls. No other site of abnormal tracer concentration was seen.

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Article

English Title:

Atrial Fibrillation Revealing a Left Ventricle Non Compaction : A Case Report

Category:

Case Reports and Case Series

Link to Slides and/or Pictures:

Pru00e9sentation1.pptx

English Abstract:

Background: The left ventricule non-compaction (LVNC) is a rare congenital disorder. The true prevalence and incidence is unknown. It is characterised by abnormal trabeculations on the left ventricle (LV) mostly localised in the ventricular apex. The diagnosis can be depicted by thransthoracic echocardiography (TTE) and confirmed by cardiac magnetic resonance imaging (MRI). It can be associated with a dilatation or hypertrophy of the LV, a systolic or diastolic dysfunction, or both.
Case report: A 73-year-old male, without a notable family history, a heavy smoker with arterial hypertension and type 2 diabetes mellitus, was admitted to our department for a paroxysmal atrial fibrillation revealed by palpitation. Physical examination was normal. His electrocardiogram showed an atrial fibrillation. TTE showed an enlarged LV with depressed ejection fraction 40% and increased wall thickness and typical prominent trabeculations and inter-trabecular recesses function. The right ventricle had normal trabeculations and good systolic moderate aortic and tricuspid regurgitation and the pulmonary artery systolic pressure was 54 mm Hg. The LVNC was confirmed by cardiac magnetic resonance imaging (MRI). A successful pharmacological cardioversion was performed by amiodarone after a trans-oesophagus echocardiography, and a curative anticoagulation by anti-vitamin K anticoagulant (acenocoumarol) associated to anti-arythmic drug (amiodarone and B-blockers) was introduced. The patient was asymptomatic with one to 22 months follow-up examination after a medical management.
Conclusion: LVNC is a rare cardiomyopathy, with many clinical presentations. The diagnosis is based on TTE combined with the cardiac MRI. The treatment is discussed case by case and the current recommendations follow the international guidelines of heart failure management.

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Article

English Title:

Right-Sided Infective Endocarditis among Intravenous Drug Users

Category:

Case Reports and Case Series

Link to Slides and/or Pictures:

Présentation2.pptx

English Abstract:

Background: Infective Endocarditis (IE) is a life threatening infectious disease of endocardial surfaces. Right-sided IE accounts for approximately 10% of the total IE cases. Intravenous drug users (IVDU) constitute the main patients in this case with the tricuspid valve being almost always involved. We hereby report a case of isolated tricuspid endocarditis of an IVDU.

Case report : We report the case of a 35-year-old man presented to our hospital with a prolonged fever, cough and sputum. His medical history included diabetes complicating chronic pancreatitis. He had a history of self-injection of Acupan for seven years. Physical examination revealed fever, tachycardia and dyspnoea. Laboratory tests revealed leukocytosis, anaemia, high C-reactive protein. The patient was hospitalised in the department of infectious disease with a diagnosis of pneumonia. On the third day of his hospitalisation, persistent fever, dyspnoea and chest pain developed. A thoracic CT was indicated, which revealed bilateral pulmonary embolism, patchy infiltrates, and cavitary lesions consistent with septic localisations. The patient was, therefore, referred to the Department of Cardiology with suspicion of infective endocarditis. Transthoracic echocardiography revealed a huge mobile vegetation on the tricuspid valve measuring 4 cm*0.5 cm prolabing in the pulmonary artery associated with moderate tricuspid regurgitation. The patient was admitted in the intensive unit of cardiology and the treatment was rearranged. All serial blood cultures were negative. The research of other locations was negative. After 20 days of treatment, fever continued and no reduction in the size of the vegetation was observed, a surgical intervention was planned. The patient was discharged after six weeks of antibiotherapy with full recovery.

Conclusion: Tricuspid valve endocarditis is more common in IVDU. The diagnosis of right-sided IE requires a high index of suspicion, since early diagnosis improves mortality rates. It needs to be suspected in every patient presenting with pulmonary manifestations, persistent fever and IE risk factors. In such cases, it could be life-saving to enforce the isolation of the responsible agent and to provide the application of surgical intervention at the earliest possible stage.

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Article

English Title:

Coronary CT versus Coronarography : Benefits and Limits

Category:

Acute Coronary Syndromes and Myocardial Infarction

English Abstract:

Background: Coronary pathology is a common condition. Its diagnosis is based on a variety of tests, the leader of which is conventional coronary angiography. The advent of the multi-detector scanner has offered new perspectives in the exploration of coronary pathology. It could in some clinical situations be a non-invasive alternative to coronary angiography subject to certain limitations.
Methods: Our study included 287 patients followed in the cardiology department between December 2012 and July 2016, 70.7% of whom had at least one cardiovascular risk factor. All of these patients had undergone a coro-CT (128 sections per rotation), for various indications, and some of them had a coronary angiography before or after the CT scan in less than four months. A comparison between the results of the two examinations was made for each patient.
Results: Computed coronary angiography was performed for suspected coronary disease in 201(70%) symptomatic patients or asymptomatic (13%)), thus for control after coronary procedure (21 cases of coronary bypass surgery, 16 cases of stent angioplasty and seven cases in addition to non-concluant coronarography). Of the CT scans, 158 had not demonstrated coronary plaque (55%) thus avoiding the use of coronary angiography in these patients. Based on the segment analysis model, sensitivity (Se), specificity (Sp), positive predictive value (PPV) and negative predictive value (NPV) were 86%, 97%, 89% and 97%. According to the patients analysis method Se, Sp, PPV, NPV were 95.7%, 88.9%, 93.7% and 92.3%, respectively. Computed coronary angiography prevented the use of conventional angiography for 58.8% of patients with low or moderate cardiovascular risk and complaining with atypical chest pain. Coronary CT was not contributory because of calcification in 47 cases, and uncontrolled heart rate in 52 cases.
Conclusion: Thanks to its good negative predictive value, computed coronary angiography is an alternative to coronary angiography in symptomatic patients with low or moderate probability of coronary heart disease. It is also very useful in the exploration of dilated cardiomyopathy and preoperative assessment of valvulopathy or extra-cardiac surgery. Its indications increase with the appearance of new generation machines being even more powerful.

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Article

English Title:

Prognostic Value of Anaemia in Tunisian Patients Presenting with NSTE ACS

Category:

Acute Coronary Syndromes and Myocardial Infarction

English Abstract:

Background: Anaemia is a common comorbidity among patients with acute coronary syndrome (ACS) and may adversely affect cardiovascular outcomes in these patients. The aim of this study was to evaluate the impact of admission anaemia on in-hospital prognosis in Tunisian patients with NSTE ACS.
Methods: Data were analysed from 449 consecutive patients admitted to our cardiology department as part of the MI-RACOS registry (MonastIR Acute Coronary Sydrome). Anaemia at admission was defined according to the World Health Organization definition (<13 g/dL in men and <12 g/dL in women). Analyses were conducted using univariate and multivariate statistical techniques.
Results: The median age of the cohort was 62,9 ± 11 years with the majority being male (72,4%). Anaemia at admission was present in almost half our patients (47,4%). Clinical presentation was more severe in anaemic patients. Anaemia was associated with significantly higher incidence of heart failure at admission (63,2% vs 36,8%; p=0,001). These patients were at much more higher risk as shown by the GRACE score (153,2 vs 132,6; p<0,00,1). Anaemia was associated with significantly higher in-hospital mortality (2,7 vs 0,7%; p=0,01) but no difference in major bleeding was noted (2% vs 1,1%).
Conclusions: Admission anaemia in Tunisian patients with NSTE ACS is common and is associated with a worse prognosis.

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Article

English Title:

Impact of Cigarette Smoking on Extent of Coronary Artery Disease and Prognosis of Tunisian Patients with Non-ST-Segment Elevation Acute Coronary Syndromes

Category:

Acute Coronary Syndromes and Myocardial Infarction

English Abstract:

Background: Smoking has been associated with the “paradox” of reduced mortality after acute myocardial infarction (MI). This is thought to be as a result of favourable baseline characteristics and less diffuse coronary artery disease (CAD) among smokers.
Methods: Data were analysed from 449 consecutive patients admitted to our cardiology department as part of the MIRACOS registry (MonastIR Acute COronary Sydrome) with 32,5% being current smokers.
Results: Smokers were significantly younger (65,8 vs 575; p<0,001) and had fewer comorbidities than non-smokers. They had a fewer incidence of hypertension (62,5 vs 18,3; p< 0,001) as well as diabetes (60,8 vs 17,9; p<0,001). Based on the GRACE score, Non-smokers were at higher risk (150 vs 146 p<0,001) although incidence of intra-hospital mortality was comparable (1,6% vs 1,3%; p=0,78). Angiographic analysis showed that non-smokers more frequently had 3-vessel atherosclerosis disease than smokers (51,2% vs 21,3%; p=0,05).
Conclusion: In contrast to the paradox previously described in ST-segment elevation MI, our analysis found11 smoking to be associated with a comparable outcome in Tunisian patients presenting with NSTE ACS.

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Article

English Title:

Selection and Timing for Invasive Therapy in Non-ST-Segment Elevation Acute Coronary Syndrome: Impact in the Real World

Category:

Acute Coronary Syndromes and Myocardial Infarction

English Abstract:

Background: The optimal timing of coronary intervention in patients with non-ST-segment elevation acute coronary syndromes (NSTE-ACSs) is a matter of debate. Conflicting results among published studies partly relate to different risk profiles of the studied populations.
Materials and methods: It is about a single-centre observational study from MIRACOS registry that included 407 patients admitted for acute coronary syndrome without ST-segment elevation from January 2007 until December 2012. We were interested to find general characteristics, clinical presentation at admission and the time to coronary angiography, revascularization, mortality and in-hospital complications.
Results: A total of 407 patients were included in our study. The average age of our patients was 62.85 years ± 11.37 years. Nearly half of our patients (49.5%) were considered at high cardiovascular risk. The average to coronary angiography was 7.09 days. Patients who underwent early coronary angiography were significantly younger (p = 0.01), had a lower incidence of diabetes (p = 0.01), left heart failure (p = 0.0001) and electrical changes suggestive of ischaemia (p = 0.0009). In addition, they have an in-hospital stay significantly shorter (p = 0.0001). Patients who have undergone an invasive strategy had significantly lower levels of creatinine (p <0.0001) and significantly lower GRACE score (p = 0.0001). The absence of renal failure, the absence of left ventricular failure, a low GRACE score and the absence of anaemia were independent predictors of use of an invasive strategy. The overall mortality among patients included in the study was 2.9%. High heart rate (p = 0.04), presence of heart failure (p = 0.01), a high serum creatinine (p <0.001) and GRACE score (p <0.0001) were predictors of mortality in ACS ST (-) in our population. All cases of death were observed in the medically treated or the delayed coronary angiography group (0% vs 2.9%, p = 0.01).
Conclusion: Despite the fact that our work has showed that invasive strategy is associated with a better prognosis in ACS ST (-) patients, the use of this strategy remains insufficient.

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Article

English Title:

Taku-Tsubo Syndrome: Case Report

Category:

Case Reports and Case Series

Link to Slides and/or Pictures:

Présentation3.pptx

English Abstract:

Introduction: Tako-tsubo syndrome is a reversible cardiomyopathy characterized by transient systolic ventricular dysfunction with a clinical presentation indistinguishable from acute coronary syndrome.

Case report:

Patient 1

A 77–year-old female with history of hypertension, diabetes and stroke, was admitted to our hospital for anterior myocardial infarction at H 24.

At Initial evaluation, the physical exam was without abnormalities. The ECG showed an elevation of ST segment in the lateral terri¬ory without mirror.

Troponin=1,49. Transthoracic echocardiography (TTE) revealed altered left ventricular ejection fraction (LVEF=40%) with akinesia and ballooning of the entire apex. A coronary angiography showed healthy coronary arteries and a four-day follow-up TTE found an improvement of LVEF to 70 %.

Patient 2

A 63–year-old female without particular medical history, was admitted to the cardiology department for myocardial infarction at H 48 after pain onset.

Initial evaluation showed crackles earl in pulmonary bases. The ECG showed negative t-wave in anterior and inferior territory with necrosis in the same territory. Troponin=9,24. TTE revealed impaired systolic function with apical hyperkinesias (LVEF =37%) and ballooning of the apex with PAHT. A coronary angiography showed healthy coronary arteries. A follow-up TTE found an improvement of LVEF to 60%.

Conclusion: With proper recognition and management, nearly all patients survived an acute takotsubo episode. However, in approximately 5% of patients, a second (or third) stress-induced event may occur.

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Article

English Title:

In Hospital Mortality from Acute Myocardial Infarction Depending on Reperfusion Methods

Category:

Acute Coronary Syndromes and Myocardial Infarction

English Abstract:

Introduction: Ischaemic heart disease is the leading cause of death in the world. Acute myocardial infarction (AMI) represents so far the most serious clinical entity. This study sought to describe the evolution of the in-hospital mortality post AMI and to identify the predictors of this mortality depending on pharmacological and reperfusion endeavours.
Methods: This is a retrospective, mono-centric, descriptive and analytical study from the MIRAMI register including 1686 patients admitted for AMI in the cardiology department of the “Fattouma Bourguiba” University Hospital in Monastir, between January 1995 and December 2015.
Results: Conservative therapy was adopted in 41.3%. Urgent reperfusion was achieved in 58.7% of cases (24.4% for primary angioplasty (PAMI) and 30% for thrombolysis) with a general trend towards PAMI. Despite statistically significant variations ($p < 0.001$) during the periods. The patients who were in cardiogenic shock were treated with primary angioplasty in 46.4%. In-hospital mortality was 9.6% (162 patients). PAMI was associated with higher mortality ($p = 0.005$). Angioplasty with balloon and the TIMI 0/1 flow were predictors of in-hospital mortality in the univariate analysis ($p<0.001$). Thrombolysis was performed essentially by streptokinase with a mean delay of 3.92 ± 2.79 h. Pre-hospital thrombolysis was observed in 37.20%.
Conclusion: Our study was interested in evaluating the in-hospital mortality post AMI. According to this study, thrombolysis was associated with lower mortality comparing even to primary angioplasty. This result may encourage the pre-hospital thrombolysis.

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Article

English Title:

Rheumatic Mitral Valve Repair and Wilkins Score

Category:

Heart Failure

English Abstract:

Background: Percutaneous transvenous mitral balloon valvotomy (PTMV) optimal results are usually achieved when echocardiographic Wilkins score (WS) is ≤8. WS from 9 to 11 represent a gray zone in which only some patients have good results. The aim of this study was to determine the early and long-term results of this procedure in patients with WS 8 or less and at the gray WS zone.
Methods: Retrospective review of clinical records of patients with rheumatic MS submitted to PTMV from January 1990 to December 2010. Follow-up was obtained by clinical records when available. The procedure was considered unsuccessful when post-procedure MV area (MVA) was <1.5 cm2.
Results: We analysed data for 378 patients with a WS ≤11, 80.5% were women. Mean age at the time of repair was 33 years [10 to 76 years] and the mean follow-up time was 74 months. Before the procedure, 33.9% had a WS in the gray zone. They were older (36 years vs 31 years, p<0.001) with a frequent history of mitral valvuloplasty (34.4% vs 12%, p <0.001). Males presented more in the gray zone (25.8% vs 16.8%, p = 0.038) while pregnant women had a WS ≤8 (20.4% vs 11.7%, p= 0.035). Patients in the gray zone presented more frequently with atrial fibrillation (39.1% vs 21.2%, p< 0.001). There were no differences regarding the functional status or the baseline echocardiographic MVA measurement by planimetry (1.07 cm^2 vs 1.05 cm^2, p = 0.26). PTMV was safe in the two groups with same rates of success but a lower mitral surface gain in the gray zone group (0.88 cm^2 vs 1.05 cm^2 , p<0.001) During follow-up, patients in the gray zone had significantly lower event-free survival (freedom from death, systemic embolism and restenosis) (58.6% vs 69.2%, p<0.001) and had a higher mortality (3.9% vs 0.8%, 0.023), higher rates of restenosis (33.6% vs 17.8%, p<0.001) and required more frequently a mitral valve replacement (16.4% vs 8.9%, p= 0.005)
Conclusion: PTMV was a safe procedure in both WS groups. Optimal results were present in patients with a WS ≤8 zone. Patients with a WS 9-11 experienced worse outcomes during follow-up. nd Wilkins Score

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Article

English Title:

Increased Clinic Efficiency and Decreased Blood Pressure with a Novel Hypertension Management Model of Care in East and West Africa

Category:

Prevention (Hypertension and Diabetes)

English Abstract:

Sub-Saharan Africa. Medtronic Labs Empower Health, a novel social business initiative, brings together health practitioners and innovative technology to create a unique end-to-end model of care for HTN management. The goal of Empower Health is to improve disease awareness, reduce the burden of disease, and improve the efficiency of managing HTN in the clinic setting.

Methods: Launched in Kenya and Ghana in 2018, Empower Health consists of a mobile device, an automated blood pressure (BP) machine, and a novel proprietary software application—combined in a unique platform for efficient longitudinal management of a patient cohort. Leveraging the model, physicians provide patients with tailored management plans. Patients access regular BP checks at home or at community-partner locations where they receive real-time feedback on their measurements. On the mobile application, clinicians can view patient data, provide direct patient feedback on their conditions via SMS, and write electronic prescriptions — accessible through participating pharmacies. We sought to determine the level of BP drop over three and six months.

Results: As of 5 Feb 2019, 1105 patients were enrolled across six facilities in Ghana and Kenya (59±13 years; 66% f0emale). Of the patients, 56% had uncontrolled BP at enrolment. The average enrolment BP was 144 ± 22/ 89 ± 13 mmHg. Of the patients, 502 had a BP measurement at least 90 days post baseline. Of those with at least 90 days of follow-up, 62.9% had a systolic blood pressure (SBP) drop by at least 10 mmHg post three months. Across the patient segment, population SBP dropped by 9.2 ± 21.5 mmHg (Month three) and by 12.1 ± 22.5 mmHg (Month six). The change was larger for those with uncontrolled BP at enrolment. For these patients, their SBP dropped by 18.4 ± 20.3 mmHg (Month three) and by 24.4 ± 19.8 mmHg (Month six).

Conclusions: The Empower Health NCD Care Model improves BP control, especially for those with uncontrolled HTN. Follow-up shows reduction in SBP levels with this unique outpatient-setting care model. The integration of technology with clinical practice provides an opportunity to reduce the burden of HTN and diabetes, with the recent addition of a diabetes module in a largely underserved population in East and West Africa

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Article

English Title:

Vascular Steal Syndrome Related to Arteriovenous Fistula at the Center of Hemodialysis and Renal Diseases of the General Hospital Edith Lucie BONGO ONDIMBA of Oyo

Category:

Case Reports and Case Series

Link to Slides and/or Pictures:

Syndrome-de-vol-vasculaire-lié-à-la-fistule1.pptx

English Abstract:

Introduction: We describe a pathology that is poorly known in our practice, vascular stenosis syndrome related to arteriovenous fistula (AVF). The goal is to contribute to the improvement of its care.
Observations: This 60-year-old patient has been a diabetic type 2 patient for 12 years and been treated with insulin twice a day. She has been hypertensive for two years and has been treated with amlodipine 10 mg/l per day. She has been on haemodialysis since January 2018, carrying an arteriovenous fistula of the left arm created in Morocco in February 2018, i.e. one month after the start of haemodialysis. She received haemodialysis in four different centres, did three sessions per week of four hours then three hours because of unilateral arm cramps, homolateral to AVF from the third hour associated with acroparesthesia. The arm was of normal colour, isothermal temperature to the contralateral arm without trophic disorders, the whole evolving since three months. The residual diuresis was 1000 ml per 24 hours. In front of these diffuse bilateral acroparesthesies in gloves on the left arm and homolateral to FAV at six months of HD in four different centres we thought about: AVF-related vascular steal syndrome; carpal tunnel syndrome in chronic renal failure (CRF) in HD and amyloid arthropathy of the HD arm. Amyloid arthropathy: bilateral involvement, old haemodialysis more than ten years. Carpal tunnel syndrome: acroparesthesia on the arm, the ENMG showed axon-dependent lengthwise sensitivomotor polyneuropathy consistent with metabolic origin (renal failure and diabetes). AVF vascular steal syndrome was associated with signs of arterial tissue ischaemia on diabetic axonal sensitivomotor polyneuropathy.
Biological results: Ferritinemia: 816,9 ng/ml. Normal. Glycaemia before HD: 2.25 g / l HbA1C: 8%. Diabetes mellitus type 2 imbalanced. Hb: 9.1 g/dl; VGM: 84.3u3; MCHC: 33 g/dl. Normochromic normochromic anaemia. The result of the echodoppler of AVF: hyperdebit of the assembly with varicose dilatation of the venous segment downstream. There are resistive types on the ulnar and radial arteries. Treatment at the end of hemodialysis: 1 ampoule of vitamin B, EPO alpha 2000 IU subcutaneously twice a week. The treatment except hemodialysis: Aspégic 100 mg 1 bag per day, Mixtard 8ui morning and evening 8ui.The vascular surgeon proposed the ligature of AVF or the dimunition of its caliber.

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Article

English Title:

Hybrid Caridiac Procedures -Developing the Next Generation of Cardiac Surgical Therapies.

Category:

Case Reports and Case Series

English Abstract:

Introduction: Hybrid strategy combines the treatment traditionally available only in the catheterisation lab with those traditionally available in the theatre. This is to offer patients the best available therapies for any given set of cardiovascular lesion. Introduced in 1996, six patients underwent MIDCABG of LIMA-LAD with PCI/stent to Non LAD lesions.

Key words: Hybrid cardiac surgery, TAVI,EVAR, TEVAR

Materials & Methods: We report our experience of the management of aortic aneurysms and aortic Dissection using endovascular aneurysm repair stents between Jan 2018 to Feb 2019. A total of ten cases were treated, of which seven were male and three female. Age varied from 47-65 years. Of the ten cases eight were aneurysms and two were Dissections. Two of the female patients had rapture of the thoracic aneurysm and had TEVAR on an emergency basis. All the patients did well and were discharged in five days, except for two of the female patients – both as emergency. One of the EVAR patients was discharged on the 14th day and the other one developed extension of the dissection with a leakage in the immediate post-operative period. Although we admitted her for surgery immediately, she did not make it. One male patient had a superficial groin infection which was treated with antibiotics.

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 Transfemoral insertion of an endovascular bifurcated graft for repair of an abdominal aortic aneurysm was in 1994 by Dr Chuter. In 2003, EVAR surpassed open surgical repair, as the most common technique for repair of aortic aneurysm. In 2010, endovascular aneurysm repair, accounted for 78% of all intact abdominal aortic aneurysm repairs in the United States.

Conclusion: In a low-volume centre, endovascular repair may be a preferable approach with 30-day outcomes similar to high-volume open repair centres. We conclude that this is an ideal treatment methodology instead of open surgery which has high morbidity and mortality. Hybrid approach definitely has a role in the treatment protocol to ensure good patient outcome.

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Article

English Title:

Documentation of Discharge Diagnosis in Medical Charts of Cardiac Patients and Monthly Reporting at the Shab Teaching Hospital

Category:

Acute Coronary Syndromes and Myocardial Infarction

English Abstract:

Introduction: Ministry of Health (MOH) in Sudan provides annual reports on the burden of different diseases on hospital admission and deaths. The accuracy of such is dependent on the quality of data provided by the hospitals in their monthly reports.

Objective: To study documentation of discharge diagnosis (DD) in the medical charts at Shab Teaching hospital (STH) and the hospital reporting of DD to MOH.

Methods: All medical charts for admissions to the cardiology department at STH, a tertiary hospital and largest cardiac centre with invasive cardiology and cardiac surgery services, in the months of Jan-Feb 2018 were studied for documentation of the DD. The monthly reports by the medical statistics department for the same period were also studied for the reported codes of DD.

Results: They were 936 long-stay medical charts issued for a total of 1529 admissions. Documentation of DD was found in 179 records (19%). Hospital filed monthly reports in Arabic. The report includes DD according to the ICD-10 World Health Organization system and each admission can only be assigned one code. Besides the ICD-10 code, the disease name is also reported in Arabic. For charts with no DD documented, the medical statistics department clerk will go through the chart and assign an ICD-10 code to the best of their knowledge.

The DD in the monthly reports for Jan-Feb 2018 were under 6 ICD-10 codes as follows: I 10 (256/16.7%), I 25 (583, 38.1%), I 20 (157/10.3%), I 42(202/ 13.2%), I 49 (140/9.2%) and I 50 (191/12.5%). The disease name in the monthly report matched the Arabic translation in the ICD-10 Arabic manual provided by MOH in 1 ICD-10 code, partially matched in three codes and completely mismatched in two codes.

Conclusion: DD is only documented in a small minority of medical charts . Monthly reports to the MOH on DD contained major flaws. The DD in the majority of cases was assigned by the medical statistics department clerks. All diseases were restricted to six ICD-10 codes with major disease entities not reported and the disease names did not match the official Arabic translation of the ICD-10 codes.

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Article

English Title:

Hypertension in Pregnancy: A Future Risk for Chronic Kidney Disease (CKD) in South Africa

Category:

Prevention (Hypertension and Diabetes)

English Abstract:

Background: Hypertension in pregnancy is a risk factor for early onset of CKD, and pre-eclampsia for end-stage CKD. Hypertension in pregnancy is particularly common in South Africa, and there are no data for the risk of CKD. With this in mind we decided to conduct an audit of all female presenting for the renal replacement programme at Groote Schuur Hospital.
Methods: This was a retrospective study performed on female patients with end-stage CKD who were presented to the renal replacement meeting between 2007 and 2017. Each assessment had a comprehensive letter recorded detailing patient demographics, psychosocial and medical history, and these served as the source data. Patients with a history of hypertension in pregnancy were identified as the case group and those without were the control group. Patient demographics, causes of CKD, kidney function and outcome of the meeting were documented. Results were analysed using basic statistical tests
Results: Of the 415 female patients with end-stage CKD 70 (16.9%) had a history of hypertension in pregnancy. Compared to the control group the cases were younger with a median age of 33 vs 41 years ($p<0.001$), higher serum creatinine 1045 vs 751 µmol/L ($p=0.017$), and lower eGFR 4 vs 5 ml/min ($p=0.029$). Cases were more likely to abuse methamphetamine (5.7% vs 1.7%, $p =0.049$), and less likely to be diabetic (1.4% vs 20.9%, $p<0.001$) and HIV-positive (2.9% vs 12.5%, $p=0.019$). Underlying causes of renal disease showed significant differences as cases were more likely to have hypertensive nephropathy (57.1% vs. 22.9%), and less likely to have diabetic kidney disease (1.4% vs 20.4%, HIVAN (1.4% vs 6.4%) and polycystic kidney disease (1.4% vs 7%) ($p<0.001$). There was no difference in acceptance to the dialysis and transplant programme (50% vs 46%).
Conclusion: This study suggests an important link between hypertension in pregnancy and CKD. These patients are significantly younger, present later, and more likely to have hypertensive nephropathy. Methamphetamine abuse appears to be a risk factor. Further study is warranted but this study suggests that all women with hypertensive disorders in pregnancy need further evaluation and follow-up postpartum.

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Article

English Title:

Analysis of Reperfusion Therapy Delays in the Light of the ESC 2017 STEMI Guidelines: A Real-Life Six-Month Tunisian Tertiary Centre Prospective Experience.

Category:

Acute Coronary Syndromes and Myocardial Infarction

English Abstract:

Background: The critical roles of temporal delay as modulator of successful reperfusion have been repeatedly demonstrated in the setting of ST-segment elevation myocardial infarction (STEMI). Unfortunately, we still have a wide practice gap between optimal and actual care for patients with STEMI in hospitals around the world especially in developing countries. To reduce this gap and improve the quality of care, the European Society of Cardiology (ESC) recommends that STEMI networks and their individual components establish measurable quality indicators, systems to measure and compare these indicators, perform routine audits, and implement strategies to ensure that every patient with STEMI receives the best possible care according to accepted standards

Methods: Between January 2018 and June 2018, we included prospectively all patients admitted to our intensive care department with a final diagnosis of evolving STEMI (<12h). We aimed to evaluate system delays for reperfusion strategies, comparatively to the defined quality criteria management established by the 2017 ESC STEMI guidelines.

Results: Included were 81 consecutive patients. All patients benefited from a reperfusion strategy. The patient delay was 2h [IQR = 1-4]. The delay of STEMI diagnosis was 13.5min [IIQ = 10-20] and only 17% of EKG were obtained within the recommended ten minutes. No patients received thrombolysis in a prehospital setting. Thrombolysis was performed in 72% of cases. Tenecteplase was used in 85% of cases. For fibrinolytic therapy administration, delay was 50 min [IQR = 20-85] and only 13% of patients had thrombolysis within the recommended ten minutes. Primary percutaneous intervention was undertaken in 28% of cases with first medical contact to guidewire crossing interval of 139 min [IQR = 108-230] exceeding the recommended delays.

Conclusions: Despite proximity to cathlab, timely care is highly dependent on the pre-existing screening, diagnosis and treatment systems. Our population became more educated to STEMI symptoms with a relatively short patient delay. Results of our study showed that our healthcare system need further improvement. This real-life photograph was intended to inform the design of a future STEMI national strategy for prehospital network and hospital management with the aim to reduce the medical organization delays for prompt reperfusion therapy.

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Article

English Title:

In-Hospital Management of STEMI: Quality Criteria and Outcomes: A Real-Life 6-Month Tunisian Tertiary Centre Experience.

Category:

Acute Coronary Syndromes and Myocardial Infarction

English Abstract:

Introduction: Recent ESC guidelines on ST-elevation myocardial infarction (STEMI) strictly established quality criteria to achieve standards of care in pre-hospital and hospital management with the final objective of reducing morbi-mortality related to STEMI.
Methods: Between January 2018 and June 2018, patients with <12h evolving STEMI were admitted to the Department of Cardiology. This monocentric prospective cohort study was designed to quantify the degree of completion of the quality criteria management of STEMI in concordance with those defined by the 2017 ESC guidelines.
Results: Eighty-one patients were enrolled, aged 61±13 years, and 85% were male. Smoking was the most common risk factor (76%) and 44% were diabetic. All patients had reperfusion therapy. Fibrinolytic strategy was done in 72% (Tenecteplase in 85%). Thrombolysis was effective in 60% of cases at the cost of haemorrhagic strokes in three patients. Primary percutaneous intervention was performed in 28% of patients. The radial access was undertaken in 95% of them. Thromboaspiration was used in 11% of cases. GPIIbIIIa inhibitors was administered in 14% of primary angioplasties. The majority of patients had single vessel disease (51%) and two and three-vessel diseases were present in 30% and 18% of cases respectively. In pa¬tients with multivessel disease and in whom percutaneous revascularization was decided, complete revascularization was performed before discharge in 74% of them. Drug eluting stents (DES) were not available in the setting of emergent PCI at that period. For patients treated successfully with thrombolysis, DES implantation was possible in an elective way in 71% of cases. All patients benefited from transthoracic echocardiography. 8% of them had >30% left ventricle ejection fraction. The average hospital stay was four days [IQR=2–8]. On discharge prescription, dual anti-platelet therapy was prescribed in 100%, statins in 99%, beta-blockers in 94%, renin angiotensin aldosterone system blockers in 90% and proton pump inhibitors in 47% of cases. Less than 2% of patients were referred to a cardiac rehab centre. In-hospital mortality was 3.7% (two hemorrhagic strokes complicating thrombolysis therapy and cardiogenic shock were fatal).
Conclusion: Although the high rate of pharmaco-invasive strategy in our population, rates of major cardiac adverse events as well as overall mortality were comparable between our study and contemporary series.

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Article

English Title:

Anomalous Culprit Coronary Artery Origin Presenting with Acute Myocardial Infarction: A Very Challenging Situation

Category:

Acute Coronary Syndromes and Myocardial Infarction

English Abstract:

Introduction: Coronary artery anomalies are found in 0.2 to 1.2% of the general population. They can take multiple topographical and clinical forms. Their discovery is often fortuitous especially in adulthood but are associated in some cases with serious presentations. We report a rare case of challenging rescue PCI in the setting of right coronary abnormal origin.
Observation: A 43-year-old man with history of type 1 diabetes, presented to emergency department with 2-hour lasting typical chest pain following intense physical and mental stress. His electrocardiogram showed significant ST-segment elevation in inferior and right leads. Thrombolysis with tenecteplase failed. Coronary angiogram showed an abnormal right coronary take-off originating from the left Valsalva sinus. Semi-selective opacification by the means left designed guiding catheter (in this case, an Extra-Back Up 3 guiding catheter) revealed subocclusive thrombotic stenosis of the mid right coronary artery with TIMI 2 coronary blood flow. Guiding catheter deep intubation and stent delivery were possible after wiring the anomalous originating culprit artery with 0,014'' extra-support polymeric-coated guidewire. A final angiographic success was achieved on the infarct-related artery.
Conclusion: Coronary angiogram and percutaneous coronary interventions may be very challenging when coronary artery origin abnormalities are present, especially in the setting of primary or rescue angioplasty. Aortography can be helpful to locate the missing coronary artery and reduce procedural fluoroscopy time and contrast dye. Proper shape of guiding cath¬eters selection, crossover to other vascular access can be helpful to achieve stable intubation of the anomalous originating coronary artery. It is also mandatory to perform not deep opacification of the normally originating contralateral artery with reflux of contrast dye in the aorta in order not to miss early separation of both coronary arteries after taking origin from a single ostium.

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Article

English Title:

Utility of FFR in Decision Making: Experience from a Sub-Saharan Referral University Hospital

Category:

Acute Coronary Syndromes and Myocardial Infarction

English Abstract:

Background: Fractional flow reserve (FFR) is an important tool to guide management of intermediate severity coronary lesions. This is supported by evidence showing improved long-term outcomes in patients undergoing FFR-guided decision making. Interventions may be safely deferred to lesions deemed haemodynamically insignificant by physiologic assessment (FFR >0.8). This averts patients from the risk of an unnecessary procedure and the need to take dual antiplatelet therapy. FFR is a relatively new modality in the sub-Saharan African region and remains poorly utilised because of unavailability, perceived added cost, and lack of familiarity with the procedure. We sought to determine the utility of FFR at a University Hospital and the fraction of lesions classified as significant using FFR.

Methods: We conducted an audit of all FFR studies performed at the Aga Khan University Hospital, Nairobi in 2017 and 2018. Recorded FFR tracings were retrieved from electronic archives and relevant demographic and clinical patient information extracted from medical records.

Results: Of the diagnostic coronary angiograms, 520 were performed at the cathlab during the period of audit. Sixty-nine patients underwent FFR studies during this time for lesions thought to be of intermediate severity. The mean age of the patients was 66.3 years, and 56 (81.2%) were male. Intracoronary adenosine was used in all cases as the agent to induce maximal hyperaemia. A total of 113 lesions were studied. Of these, only 31 (27.4%) of the lesions were classified as functionally significant based on an FFR threshold value of 0.8 and revascularization was recommended. The mean FFR value for significant lesions was 0.72 and that for non-significant lesions was 0.90. No documentation of adverse events attributed to the FFR procedure or intracoronary adenosine was noted.

Conclusions: A large fraction (72.6%) of lesions which are considered to be of intermediate severity on invasive coronary angiography were found not to be functionally significant using FFR. Based on existing evidence and guidelines, intervention to these lesions may be safely deferred. FFR should be taken up by more cathlabs in the region to aid in decision making prior to intervention.

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Article

English Title:

Clinical Profiles and Angiographic Characteristics of Patients Undergoing Coronary Angiogram in two Hospitals in Nairobi

Category:

Acute Coronary Syndromes and Myocardial Infarction

English Abstract:

Background: An emerging principle threat in Africa is coronary artery disease (CAD). Previous studies have focused on the analysis of risk factors of patients undergoing coronary angiography but no study has looked into the angiographic characteristics of this patient population.
Objective: This study aimed to determine the prevalence of angiographically confirmed CAD, assess the risk factor profile and describe the angiographic pattern of CAD among patients undergoing coronary angiography at the Kenyatta National Hospital and Nairobi West Hospital.
Study design: Hospital-based descriptive cross-sectional study.
Study setting: The study was carried out in the catheterisation laboratories in two centres, Kenyatta National Hospital (KNH) and Nairobi West Hospital (NWH).
Subjects: The study population included patients who had undergone coronary angiography during the study period between May and October 2018.
Results: Ninety patients were recruited into the study. Of these, 33 (36%) were found to have normal epicardial vessels with no obstructive CAD while 57 (63%) had angiographically confirmed CAD. The mean age of the patients was 57 years (SD 65.2), and a slight male predominance was found with a male to female ratio of 1.85:1. The prevalence of the risk factors among patients with angiographically confirmed obstructive CAD were as follows: hyperten¬sion 50(87.7%), diabetes 31 (54.4%), dyslipidemia (56.1%), smoking 19(33.3%), Obesity 16 (28.1%) and family history of premature CAD 2(3.5%). In respect to indications for coronary angiography, 36% of the patients had history of (ACS) STEMI/N-STEMI with 17.5% having stable angina (CCS class III/IV) and another 17.5% having unstable angina history. Angiographic analysis revealed that 35 (61.4%) of the patients had single vessel disease, 15 (23.3%) had double vessel disease, 7 (12.3%) triple vessel disease and 8 (7.2%) had left main disease. Concerning vessel involvement, left anterior descending was the most common vessel diseased 40 (36%) followed by left circumflex 32 (28.8%) and RCA 31 (27.9%).
Conclusions: The most prevalent risk factor among patients with atherosclerotic CAD was found to be hypertension. Majority of the patients had single vessel disease with the most commonly involved epicardial vessel being LAD.

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Article

English Title:

Peculiarity of Arterial Hypertension during Pregnancy

Category:

Prevention (Hypertension and Diabetes)

English Abstract:

High blood pressure and pregnancy is common and remains a major cause of maternal and foetal mortality and morbidity. The aim of this work is to study the peculiarities of this high-risk pregnancy.

This is a retrospective study of 544 cases of high blood pressure and pregnancy colligated in the maternity Lalla Meryem of the Ibn Rochd hospital in Casablanca during a period of two years.

The incidence is 9.2%. The average age of onset was 30 years with an age range of 15 to 45 years. Primiparous women were the most exposed, with 261 cases (48%).

In 310 cases (57%) the pregnancy was not monitored. In 290 cases (53.3%), the systolic blood pressure was greater than or equal to 160 mmHg, and in 160 cases (29.4%), the diastolic blood pressure was ≥ 110 mmHg.

The most used medical driving was the Association rest and antihypertensive . Obstetric conduct was marked by the frequency of low-birth births (63.4%). Maternal complications represented (14.7%) dominated by retro-placental haematoma (5.1%) and eclampsia (3.7%). Perinatal mortality represented 57 cases (9.9%). Foetal-maternal prognosis factors for the fetus are: low gestational age, low parity, non-pregnancy, massive proteinuria, and hyperuricaemia. For the mother, the young maternal age, the primiparity, the non-followed character of the pregnancy, the diastolic blood pressure ≥ 110 mmHg, systolic blood pressure ≥ 160 mmHg, and massive proteinuria.

Careful monitoring of pregnancies, early diagnosis of high blood pressure and better maternal and child care, as well as better knowledge of foetal-maternal prognostic factors contribute to the reduction of complications of high blood pressure during pregnancy.

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