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# POSTERS

Abstracts


22nd International Conference on

## New Horizons in Cardiology & Cardiologists Education

March 07-08, 2019 | Berlin, Germany

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Naseer Ahmed, J Heart Cardiovasc Res 2019, Volume 3
DOI: 10.21767/2576-1455-C1-003

# Coronary angiogram and graft study with single diagnostic catheter in dextrocardia: best approach for cath lab with limited resources

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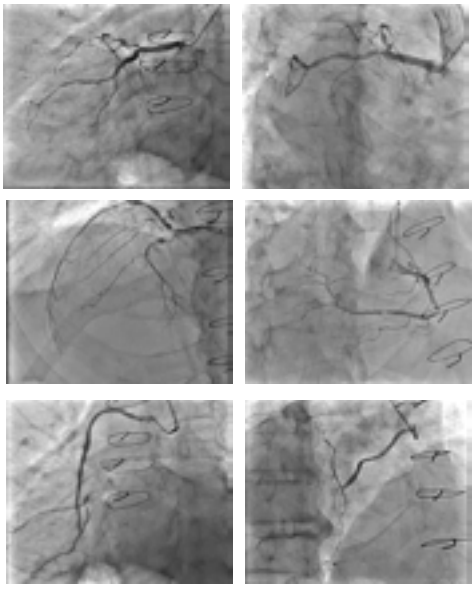
**Dextrocardia (DC) is a rare congenital anomaly. The incidence of coronary artery disease is similar to the general population. Dextrocardia presents several challenges due to abnormal location of the heart, mirror image pattern of aortic arch and its branches, and abnormal coronary origin and orientation, and it becomes more difficult when grafts are cannulated through trans-radial access, all with single catheter. We have performed coronary angiogram and graft study through trans-radial access using only one diagnostic catheter due to limited resources in developing country.**



**Biography**

Adhip P N Majumdar received his MS and PhD degrees from the University of London, England, and DSc (Doctor of Science) degree in Gastroenterology from the University of Aarhus, Denmark. He has been a Professor at Wayne State University since 1992 and holds the post of Senior Research Career Scientist at the Detroit VA Medical Center. He has published over 200 original scientific articles and a multitude of book chapters/review articles. His lab is particularly interested in elucidating the patho-physiology of age-related changes in the GI mucosa specifically those that lead to malignancy. To this end, he has been investigating the role of pluripotent, self-renewing CSCs in the development and progression of GI malignancies. He has been funded by the VA and NIH.

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# ACCEPTED

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# Attitudes and recommendations of physicians towards alcohol consumption and cardiovascular health: A perspective from Argentina

**Ricardo Lopez Santi**

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**Despite epidemiological findings of improvements in cardiovascular risk factors with a light-to-moderate intake of alcohol, many misconceptions remain regarding alcohol intake and the risks and benefits of consumption. We sought to examine physician attitudes and recommendations regarding alcohol intake in a cohort of Argentine physicians and to establish their sources of knowledge. An online national survey was distributed through the Argentine Federation Cardiology (FAC) to cardiologists, internal medicine specialists, general and other subspecialty physicians in Argentina. The survey was completed by 745 physicians, of whom 671 (90%) were cardiologists. In total, 35% of physicians viewed moderate alcohol intake to be beneficial for cardiovascular health, 36% believed only wine offered such benefits, 24% viewed any intake to be harmful, and 5% had other opinions. More than half (57%) self-reported their knowledge came from academic sources. Regarding knowledge of drinking guidelines, only 41% of physicians were aware of the concept of "standard drink". Physicians were generally not comfortable converting standard drinks into other metric units, however men tended to be more comfortable than women (p=0.052). Physicians were not satisfied with their knowledge of drinking guidelines (3.01±2.73, on a 0–10 scale). Physicians were generally comfortable in counselling patients regarding safe limits of consumption (6.22±3.20, on a 0–10 scale). Argentine physicians were not satisfied with their knowledge of alcohol consumption guidelines or their understanding of the reported metrics. Only one-third of study participants viewed moderate alcohol intake as beneficial for cardiovascular health. This study shows the necessity to optimize the sources of knowledge.**

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# The waist/height indicator is pre-monitor of the Metabolic Syndrome, in children from 12 to 15 years of age in a school in the city of Guayaquil-Ecuador

**Fernando Antonio Aguirre Palacios, Antonio Coca, Maria Fernanda Aguirre** and **Gregory Celis**

University of Guayaquil, Spain

**This is a study carried out in children in Guayaquil-Ecuador, in order to validate the indicator waist/height, with the metabolic syndrome (MS). We hypothesized the w/h index >0.50, pre-hypertension and sedentary lifestyle are three pre-monitors of MS, provided that the children have reached the Tanner V stage of their sexual maturity. 395 students from 10 to 15 years old, apparently healthy, from a densely populated and middle class area, were included. The physical examination and laboratory tests where done in search of the SM (Triglycerides, HDL Col, Glycaemia, abdominal perimeter, and blood pressure) 3 blood pressure measurements were performed, and the BMI was calculated, the w/h indicator, and plasmatic values of Insulin, HOMA, hs PCR and Interleukin 6 were included. The MS was defined according to NCEP ATP III criteria, modified by De Ferranti. The average age was 12 years. The prevalence of MS was 9.37%. The relationship of the w/h indicator with pre-hypertension and sedentary lifestyle was statistically significant with a P value of 0.001 and 0.003. In children, with normal weight w/h Index is <0.50, where no risk for MS, but with w/h>0.50 a risk of 2.2 times. In children with overweight and w/h<0.50 the risk of MS was 0, while with an I w/h >0.50 the risk was 9.15 %. The use of the w/h I is 100% sensitive for the MS in children aged 10 to 15 years. The w/h indicator is a simple tool, together with pre-hypertension and sedentary lifestyle, are high-sensitivity pre-monitors to predict Metabolic Syndrome.**

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# Direct evidence of viral infection and mitochondrial alterations in the brain of fetuses at high risk for schizophrenia

**Segundo Mesa Castillo**

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**Background**: There is increasing evidences that favor the prenatal beginning of schizophrenia. These evidences point toward intra-uterine environmental factors that act specifically during the second pregnancy trimester producing a direct damage of the brain of the fetus. The current available technology doesn't allow observing what is happening at cellular level since the human brain is not exposed to a direct analysis in that stage of the life in subjects at high risk of developing schizophrenia.

**Methods**: In 1977 we began a direct electron microscopic research of the brain of fetuses at high risk from schizophrenic mothers in order to finding differences at cellular level in relation to controls.

**Results**: In these studies we have observed within the nuclei of neurons the presence of complete and incomplete viral particles that reacted in positive form with antibodies to herpes simplex hominis type I [HSV1] virus, and mitochondria alterations.

**Conclusion**: The importance of these findings can have practical applications in the prevention of the illness keeping in mind its direct relation to the aetiology and physiopathology of schizophrenia. A study of the gametes or the amniotic fluid cells in women at risk of having a schizophrenic offspring is considered. Of being observed the same alterations that those observed previously in the cells of the brain of the studied foetuses, it would intend to these women in risk of having a schizophrenia descendant, previous information of the results, the voluntary medical interruption of the pregnancy or an early anti HSV1 viral treatment as preventive measure of the later development of the illness.

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# Stenting ductus arteriosus via axillary artery vs. femoral vein in infants

**Murtaza Kamal, Nitin K Rao** and **Suman Vyas**

Star Hospitals, Hyderabad, India

**Introduction**: Stenting of the ductus arteriosus is necessary to maintain duct dependent circulation. The ductal morphology predicts not only the technical difficulty in stenting but also the risks of restenosis necessitating reintervention.

**Aim & Objectives**: To retrospectively review the outcomes of ductal stenting in children via different routes, present a technique of ductal stenting via axillary artery and compare it with femoral access.

**Materials & Methods**: Twenty three patients with duct dependent circulation were treated with stent implantation. These patients were included in the study retrospectively. In 19 (82%) of these patients, duct stenting was done through the femoral venous route. In 4 (18%) of the cases the axillary artery was favored to transvenous approach for ductal stenting.

**Results**: PDA stenting was done for four cases in which axillary approach was used. All of the 4 cases received prostaglandin infusion. The median age at procedure time was 12 days (range: 4- 18 days) with a median weight of 2.9 kg (range: 2.7-3.3 kg). All the babies were term. One had pulmonary atresia intact septum, 1- complete AV canal defect with PA and unbalanced ventricles and 2 had TOF with PA. The median ductal diameter was 2.4 mm (range: 2.2-3.4 mm) with median ductal length of 15 mm (range: 10-22 mm). The median procedure time was 78 minutes (range: 70-118 minutes) with median fluoroscopic time of 32 minutes (range: 26-42 minutes). Fluoroscopic time was significantly shorter in those with axillary approach.

**Conclusion**: The axillary arterial access is an effective approach to stent the arterial duct in newborns with duct-dependent circulation. Compared with anterograde approach via the femoral vein, positioning the wire into the vertical duct via the axillary artery is much more feasible. This increases success rates as well as shortens the duration of procedure and reduces complications.

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# Impact of arterial stiffness on coronary lesions and in-Stent restenosis

**Mohamed Abed BOURAGHDA**

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**Background**: Cardiac and cerebrovascular pathology and their complications are still the leading cause of morbidity and mortality in the world. Hypertension is a major risk factor for the occurrence of these events. The target organs, where there is an arterial pressure called central pressure, are subjected to it continually. Clearly, it is the central blood pressure (CBP) and not the brachial pressure taken from the armband monitor that is implicated in the genesis of this complications. However, the noninvasive measurement of the CBP takes into consideration only one measurement point on the arterial tree while it undergoes variations from the center to the periphery related to the arterial viscoelastic properties resulting in an amplification phenomenon (of the CBP and Pulsed pressure (PP)), which is a reliable parameter for evaluating arterial stiffness and whose reduction results in a negative impact on the occurrence of cardiovascular events (CV)

**Conclusion**: This innovative work, carried out in our laboratory, confirms the stronger link between CBP and CV risk, particularly in its pulsatile component, where it proves to be more powerful. This finding is obtained by means of a reference measurement method on a North African population of consecutive patients. Thus, we have demonstrated that the reduction of the central pressure amplification, which is a reliable to arterial stiffness, is an independent factor of severe coronary disease involvement, with all that this may imply from a prognosis.

**Keywords**: Hypertension, invasive systolic blood pressure, pulse pressure, central and pulse systolic blood pressure amplification, indexed left ventricular mass, diastolic function, stent restenosis.

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# New method for determining blood pressure in unanaesthesized rats using noninvasive CONTEC 08A device with small cuff: A path to antihypertensive drug development in developing countries

**Abiola Muhammad Adeosun, Ighodaro O M** and **Akinloye O A**

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Federal University of Agriculture, Nigeria

**Invasive method of determining blood pressure has been the commonly used method in animal model of hypertension study. Currently used noninvasive blood pressure monitoring devices are very costly and unaffordable by researchers from developing or under developed countries. In our study, we designed a new method for determining blood pressure in animal model studies by using CONTEC 08A device with small cuff for rats. Ten male Wistar rats of 182-240 g body weight were randomly assigned to two groups (n=5/group). A group served as control (without treatment), the second group was administered dexamethasone (2mg/kg of body weight) supplemented with 4% table salt (NaCl) as drinking water to induce hypertension. Blood pressure was measured ten times in each rats of the two groups at baseline (day 0) and after 5 days. Reproducibility (Sw) was calculated in each group. CONTEC 08A yielded good reproducibility in both hypertensive (SBP, Sw=6 mm Hg, DBP, Sw=10 mm Hg) and non-hypertensive rats (SBP, Sw=3 mm Hg, DBP, Sw=6 mm Hg). Better reproducibility was obtained in non-hypertensive rats. Consistency in data obtained showed that noninvasive blood pressure monitoring using CONTEC 08A device with small cuff is effective, and recommendable for use in rat model study of hypertension.**

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# Relationship between the insulin resistance and circulating predictive biochemical markers in metabolic syndrome among young adults in western Algeria

**Mohammed Ilyes Belhayara A**

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**Aim**: The metabolic syndrome (MetS) becomes increasingly obvious from an early age. The current study aimed at exploring the relationship between insulin resistance and the main biomarkers of MetS in young adult Algerian patients.

**Methods**: Glucose, HbA1C, total cholesterol (TC), high density lipoprotein cholesterol (HDL-C), low density lipoprotein cholesterol (LDL-C), insulinemia and C-peptide, adipokines (leptin, adiponectin), inflammatory cytokines (IL-6 and TNF-a), us-CRP and GLP-1 were measured by suitable methods. Homeostasis model assessment (HOMA) was used to detect the degree of insulin resistance.

**Results**: The MetS patients displayed higher glucose, insulin, HbA1c values and impaired lipid profile as judged by increasing TC, TG, LDL-C levels and lower HDL-C. Furthermore, adipokines, HDL-C and CRP contents were significantly higher whilst TG and LDL-C were much lower in MetS female group as compared to male patients suggesting most pronounced metabolic perturbation in the latter group. The probability of a significant correlation between HOMA and studied variables was often higher in female than male subjects. Such was the case for total cholesterol, HDL-cholesterol, triglycerides, adiponectin, interleukin-6, TNF-a and hs-CRP.

**Conclusion**: The high rate of metabolic syndrome among young obese adults is alarming; this requires extensive investigations in prone subjects.

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# The benefit of the 17-lead ECG in the acute phase of inferior STEMI in predicting the culprit artery

**Mekhdoul, Talamali, Messai** and **Bouame**

Service of Cardiology,HCA

**Background & Objective**: Acute coronary syndromes with ST segment elevation in inferior territory are due to the occlusion of either the right coronary artery (RCA) or circumflex artery (CX). The prediction of the culprit artery based on the electrocardiogram at admission is not always easy for the clinician. The objective of this study was to evaluate the benefit of 17-lead ECG on admission in predicting the culprit artery in the inferior IDM.

**Methodology & Theoretical Orientation**: We selected and analyzed retrospectively 17-lead ECG of 113 patients. Those ECG were made at the first medical contact in patients consulting before the sixth hour of the onset of chest pain and whose coronary angiography performed within 24 hours found mono-truncal lesions. We calculated sensitivities, specificities and positive and negative predictive values of ST segments of different leads individually and in combination, which enabled us to create an algorithm that could best predict the culprit artery in the STEMI inferior topography. Our algorithm includes the following electrocardiographic criteria: The first step, look if there's a right ventricle involvement by examining the V3R and V4R leads, predictive of occlusion of the RCA. The second step, separately analyze the lone inferior STEMI (STE in D2, D3 and aVF) and the inferior STEMI extended to the posterior wall (STE in D2, D3, aVF and V7, V8, V9). In the lone inferior STE: two ECG criteria are used, form of ST segment in D1 and aVL. In the posterior wall extension case 3 criteria: (1) the ratio of the sum of ST elevation in the inferior leads (D2, D3, aVF) to that sum in the back leads (V7, V8, V9) then (2) the ratio of the ST elevation D2/D3 and finally (3) the appearance of ST segment in D1. We applied this algorithm on 236 consecutive inferior STEMI, we identified correctly 225/236 (95.3%) culprit arteries, including those with very dominant circumflex arteries. The 11 patients misclassified by our algorithm, showed multi-truncal lesions and coronarographies were performed repeatedly.

**Conclusion & Significance**: An 17 leads electrocardiogram during the acute phase of an inferior STEMI allows a detailed analysis of the waveform and hence, lead to the identification of the culprit artery.

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# The stress hyperglycemia in the acute phase of a STEMI: a residual risk in the era of primary angioplasty?

**Mekhdoul, Talamali, Messai** and **Bouame**

Service of Cardiology, HCA

**Hyperglycemia observed at the admission of a STEMI is associated with a poor prognosis. This association has been reported before and after the era of coronary revascularization in particular non-diabetic patients and would be sharper and more important in the era of primary angioplasty.**

**Methodology & Theoretical Orientation**: **Compare the impact of admission hyperglycemia in STEMI on in-hospital mortality in patients undergoing primary angioplasty to those with no reperfusion therapy.**

**Population & Methods**: **A prospective, multicenter study with a recruitment of 1222 consecutive patients without a prior history of diabetes and HbA1C <6.5% in the first 24 hours of STEMI**

**Findings**: **The average age of the population was 60.28 yrs +/- 13 yrs, the mean glycemia on admission was 1.39 g/L +/- 0.333, 56.2% of the patients benefit from early coronary reperfusion, the in-hospital mortality was 7.2%. The results showed a linear correlation between the level of glycemia on admission and in-hospital mortality, an increase of 10 mg/L of serum glucose was associated to an increased mortality of 2.6% (2.0-3.3), p<0.001. The mortality was higher in the population of patients who haven't receive any reperfusion therapy was 12.2% versus 3.3% (p<0.001). But the impact of the glycemia on admission seems more important on the population of reperfused patient adjusted OR à 5.2 (1.5-17.5), p=0.008 versus adjusted OR 2.7 (1.3-5.38), p=0.005.**

**Conclusion & Significance**: **Hyperglycemia on admission is an independent predictive factor of short term mortality in non-diabetic patients during the acute phase of STEMI, its impact is more important in patients who benefit from a revascularisation therapy at an early stage.**