

29. Triple rule out versus standard coronary computed tomography angiography in evaluation of acute chest pain syndrome.

O. smettei^a, R. Abazid^b

^aPSCCQ, burydah, Saudi Arabia; ^bPSCCQ, Burydah, Saudi Arabia

Acute chest pain (ACP) in emergency department represents a health care challenge. Triple-rule-out (TRO) Computed Tomography Angiography (CTA) can provide an evaluation of the coronary arteries, aorta, Pulmonary arteries, and chest structures in one scan. The aim of our work was to evaluate the diagnostic yield of TRO versus cardiac CTA in patients with ACP, In addition to compare the image quality, contrast material and radiation doses of TRO with standard CTA. We hypothesized that TRO CTA has a comparable diagnostic yield to standard coronary CTA, in addition to its ability to add extra diagnostic information. Prospective analysis of 134 TRO CTA data, to assess the presence of coronary artery disease (CAD), Aortic dissection, pulmonary embolism and other chest pathology. Then retrospectively to compare the results with 132 standard CTA. Normal coronaries or non-significant CAD was seen in 97 (72.9%) patients, 19 (14.2%) had moderate or significant CAD, two (1.5%) had aortic dissection, three (2.2%) had a pulmonary embolism, 61% had other findings. The image quality score and noise were comparable between the standard and TRO CTA (2.8 ± 0.6 vs 2.96 ± 0.6 , $P = 0.28$) and (30.5 ± 10.6 vs 28.4 ± 1 , $P = 0.1$) respectively. The effective radiation dose was significantly lower in the standard compared to the TRO CTA using prospective (4.4 ± 1.7 vs. 5.1 ± 0.5 mSv = 0.008) and (11.9 vs. 18.3 ± 5 msv, $P = 0.0001$) for retrospective gating protocols. The contrast dose was lower with standard protocol (83 ± 5 vs 102 ± 9 ml. $p = 0.001$). TRO CTA is a valid tool for diagnosis of CAD and can provide accurate detection of non-coronary pathology, but it was associated with higher radiation and contrast doses compared to the standard CTA.

<http://dx.doi:10.1016/j.jsha.2016.04.030>

30. Cardiovascular risk factors burden in Saudi Arabia: The africa middle east cardiovascular epidemiological (ace) study

A. Ahmed^{a,b}, A. Hersi^c, W. Mashhoud^d,
M. Arafah^e, P. Abreu^f, M. Al Rowaily^g,
M. Almalah^{h,i}

^aKing Abdulaziz Medical City for National Guard, Riyadh, Saudi Arabia; ^bKing Abdulaziz Cardiac Center National Guard Hospital, Riyadh, Saudi Arabia; ^cKing Saud University, Cardiac Sciences, Riyadh, Saudi

Arabia; ^dPfizer, United States; ^eKing Saud University, Cardiac Sciences, Riyadh, Saudi Arabia; ^fPfizer, United States; ^gKing Saudbin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia; ^hKing Abdulaziz Cardiac Center National Guard Hospital, Cardiac Science, Riyadh, Saudi Arabia; ⁱKing Saudbin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia

Limited data exist on the epidemiology of cardiovascular risk factors in Saudi Arabia particularly in relation to the differences between local citizens and expatriates. The aim of this analysis is to describe the current prevalence of cardiovascular risk factors among patients attending general practice clinics in Saudi Arabia. In a cross-sectional epidemiological study, the presence of cardiovascular risk factors (hypertension, diabetes, dyslipidaemia, obesity, smoking, and abdominal obesity) was evaluated in stable adult outpatients attending primary care clinics in Saudi Arabia. Groups comparison were made between local Saudi patients and expatriates. A total of 550 participant were enrolled from different clinics in Saudi Arabia (71% were male, mean age was 43 ± 10 years). Nearly half of the study cohort had more than two cardiovascular risk factors (49.6%). Dyslipidaemia had the highest prevalence (68.4%). Furthermore, prevalence of hypertension (47.5% vs. 31.4%), dyslipidaemia (75.2% vs. 55.1%) and abdominal obesity (63.9% vs. 52.2%) were higher among expatriates compare to Saudis (p -value < 0.001). This analysis clearly shows that there is a high prevalence of cardiovascular risk factors prevalence in Saudi population. In addition, a significant proportion of patients with risk factors have poor overall control. Programmed community based screening is needed for all cardiovascular risk factors in Saudi Arabia. Increased awareness and improved primary care services may decrease incidence of coronary artery disease and improve overall quality of life.

<http://dx.doi:10.1016/j.jsha.2016.04.031>

31. Differential effects of intravenous bolus furosemide and continuous furosemide infusion on in-hospital management and outcomes among patients admitted with acute decompensated heart failure

N. Alsuhebany^a, R. Aqel^a, H. Alballa^b,
F. Al-Ayoubi^a, G. Bawazeer^a, K. Alhabib^a,
H. AlFaleh^b, A. Hersi^a, A. Ullah^a, T. Kashour^b
^aKing Saud University, Riyadh, Saudi Arabia;
^bKing Saud University, Riyadh, Saudi Arabia

Loop diuretics are a cornerstone in the management of Acute Decompensated Heart Failure (ADHF). However, the best therapeutic strategy in terms of intermittent boluses versus continuous infusion is still unclear. We

set to examine the differences in hospital management and short-term and long-term mortality of patient receiving furosemide bolus or infusion treatment for ADHF. This is a retrospective cohort study of 207 patients admitted to KKHU with ADHF. Clinical data, labs, in-hospital outcomes and long-term mortality data were collected through review of medical records and HEARTS registry database. We stratified our cohort into two groups; furosemide infusion and bolus groups. The Mean age was 61.5 ± 13.87 years, and 66.2% were males. Approximately 42% had left ventricular ejection fraction LVEF $<40\%$. Use of intravenous infusions furosemide and boluses during admission was 42.86% and 57.14%, respectively. Compared to patient received bolus therapy, patients on infusion therapy had more renal impairment at presentation (26.4% vs. 12.5%, $p = 0.033$) and anemia (18.1% vs. 4.25, $P = 0.006$). They had less diabetes (30.6% vs. 38.5%, $p = 0.006$) and prior MI (18.1% vs. 32.3%, $p = 0.006$). Infusion group received higher total daily diuretic dose ($p < 0.001$), more Metolazone (19.4% vs. 3.1%, $p = 0.002$) and mechanical ventilation (11.1% vs. 3.1, $p = 0.038$). There was no difference in total urine output and renal outcomes between the two groups. The infusion group had longer hospital stay (15.40 ± 12.14 vs. 10.26 ± 6.74 days, $p < 0.001$). The long-term mortality up to 3 years was significantly higher among patient who received infusion therapy (27.78% vs. 9.38%, $p = 0.002$). ADHF patients who received furosemide infusion needed higher diuretic dose, had significantly longer hospital stay and higher long-term mortality.

<http://dx.doi:10.1016/j.jsha.2016.04.032>

32. Ultra-fast, low high-pitch (flash) versus prospectively gated coronary computed tomography angiography^{*}

O. smettei, S. Sayed, A. Al Habeed, F. Al Harby, R. Abazid
PSCCQ, burydah, Saudi Arabia

Coronary computed tomography angiography (CTA) is increasingly being used for evaluation of coronary artery disease (CAD), but Radiation exposure still a major limitation of its use. We hypothesized that the high pitch spiral (FLASH) is superior to prospective (step and shoot (SAS)) ECG gating scan protocol, and associated with a low radiation exposure. The purpose of our study is to compare image quality and radiation exposure in a two group of patients undergoing CTA using a 256-slice dual source helical CT scanner with FLASH or SAS protocols. We randomized 162 patients referred for coronary CTA for either FLASH or SAS scanning protocols, subjective Image quality was graded based on a 4-point grading system (1: non diagnostic, 2: adequate, 3: good, 4: excellent). While Objective image quality was assessed using

image signal, noise, and signal-to-noise ratio (SNR). The effective radiation dose was also estimated. The clinical and demographic characteristics of the patients in both groups were similar. We found that subjective image quality obtained with FLASH was superior to SAS (3.35 ± 0.6 vs. 2.82 ± 0.61 mSv; $p < 0.001$), image noise was not statistically different (25.0 ± 6.13 vs. 24.0 ± 6.8 , $p = 0.10$), while the signal and SNR was significantly higher with FLASH Compared to SAS (469 ± 116 vs. 397 ± 106 . $P = < 0.001$) and (21.9 ± 8.7 vs. 16.6 ± 7.7 mSv; $p < 0.001$) respectively. Radiation exposure was 62% lower in FLASH compared to SAS protocol, (1.9 ± 0.4 mSv vs. 5.12 ± 1.8 mSv; $p < 0.001$). Use of 256-slice CTA performed with FLASH protocol has better objective and subjective image quality, lower radiation exposure when compared with the use of prospective ECG gating.

<http://dx.doi:10.1016/j.jsha.2016.04.033>

33. Moderate ischemic mitral regurgitation: Revascularization alone versus revascularization and mitral valve repair

H. bakr
Madina Cardiac Centre, Madinaha, Saudi Arabia

Ischemic mitral regurgitation (IMR) can be defined as mitral valve (MV) insufficiency caused by coronary artery disease and excluding other causes of mitral pathology as rheumatic, myxomatous, infectious, congenital, or connective tissue diseases, it usually occurs with right or circumflex coronary infarction that involves the posterior ventricular wall, posterior papillary muscle, and adjacent mitral annulus (1). The management of IMR represents a therapeutic challenge. Although most patients are treated medically, many patients are referred for surgery. Some authors claimed that revascularization alone is sufficient for managing those patients (3), whereas others have recommended revascularization combined with mitral valve repair (2). There is a general agreement that patients with mild mitral regurgitation (1+) are treated with coronary artery bypass surgery (CABG) alone and those with severe (3+ or 4+) IMR should undergo mitral valve surgery at the time of CABG surgery. However, the importance of moderate IMR (2+) is still controversial.

A prospective controlled randomized study includes (60 patients with IHD undergoing CABG with ischemic mitral regurgitation aged from 40 to 65 years of both sexes). They will be divided into two groups of patients: Group I: 30 patients with IHD and moderate IMR undergoing on pump CABG for revascularization only. Group II: A 30 patients with IHD and moderate IMR undergoing on pump CABG for revascularization and mitral valve repair.

Study made from January, 2014 to August, 2015, at Medina Cardiac Centre that the presence of moderate (2+) ischaemic mitral regurgitation in ischaemic heart disease patients undergoing revascularization alone

^{*} #32 abstract awarded the Al Fagih Prize in SHA27.