Conclusions: Our experience confirms that trend is an effective procedure in the treatment of hypertensive patients refractory to medical therapy. The presence of arterial spasm, considered a reversible periprocedural complication, in fact seems to be associated to a greater effectiveness of the treatment.

---

**IMAGING**

**CTA**

Coronary CT Angiography in Triaging Patients Admitted to Emergency Department with Chest Pain and Low to Intermediate Risk of Acute Coronary Syndromes

Jacek Jagas, Piotr Klimczek
Regional Specialised Hospital Wroclaw, Wroclaw, Poland

Background: A single center, prospective, randomized study was undertaken to evaluate the safety and efficacy of coronary CT angiography (CCTA) guided strategy to triage patients admitted to Emergency Department (ED) with acute chest pain.

Methods: 206 patients admitted to ED with acute chest pain and low to intermediate risk of ACS were randomized into two groups: Group A: CCTA guided strategy (104 pts, 52 F) and Group B: risk assessment and invasive angiography according to Syntax Score (102 pts, 55 F). In Group A all patients underwent ECG gated 64-slice CCTA appended to routine proceeding.

Results: Among of 1096 coronary segments, 92 (8.3%) were not suitable for evaluation by CCTA (mostly distal segments and small branches). Effective radiation dose for CCTA was 9.4±4.2 mSv. In 74 patients (71%) CCTA excluded significant coronary stenosis as a cause of acute chest pain. In this group of patients CCTA revealed lung nodules (n=4), pulmonary embolism (n=5), enlarged mediastinal lymph nodes (n=17) and esophaged hemia (n=4) as other possible causes of acute chest pain. Invasive coronary angiography was performed in 30 patients (29%) in Group A and in 98 patients (94%) in Group B (p<0.002). Revascularization followed invasive angiography in 28 patients (93%) in Group A and in 36 patients (37%) in group B. Mean time of hospital stay was significantly shorter in group A (55±2 hrs vs. 90±3.4 hrs, p<0.005). There were no undetected acute coronary syndromes and no significant differences in major adverse cardiovascular events at 1 year. CCTA demonstrated very high discriminative value for selecting patients requiring invasive angiography: area under ROC curve 0.977 (0.95 confidence interval, p<0.002, sensitivity 100%, Specificity 95.4%, PPV 89%, NPV 100%).

Conclusions: In patients in the emergency department with acute chest pain and low to intermediate risk of acute coronary syndromes, incorporating CCTA guided strategy to triage patients for invasive or conservative treatment decreases the number of invasive angiographies, shortened time of hospital stay and allowed the diagnosis of other, noncardiac causes of acute chest pain with excellent long term outcome in comparison to standard strategy.

---

**CRT-300**

Phenotypic Characteristics of Lethal Anomalous Right Coronary Artery From the Left Main Artery; the LARCALM Score

E. K. Otah1, Oluwagbemiga A. Popoola2
1The Heart and Vascular Institute, Houston, TX; 2The Methodist Hospital, Sugar land, TX

Background: Sudden cardiac death in young individuals is considered a tragedy especially if it is due to a possible preventive problem. The need to establish proper screening protocols in the large athletic and young population cannot be over emphasized. One of more common causes of SCD is the presence of lethal anomalous right coronary artery disease from the left main artery and traversing between the pulmonary trunk and the aortic root now called LRCA.

Methods: Using our database from the cardiac CTA department we reviewed a random group of patients with CTA diagnosed anomalous right coronary artery from the left main coronary artery. Patients were divided into two groups, the benign and the lethal variety of patients with anomalous right coronary artery of the LRCA variety again all diagnosed by 64 slice cardiac CTA. We obtained history of presentation, past medical and social history, family history and physical notes, we also obtained ECG and if available exercise ECG, we also obtained list of medications. Parameters obtained from these sources included: demographics i.e. age, sex, race, presenting complaints i.e. chest pain variants of angina, syncope, dizziness, SCD, falls, shortness of breath. Family history included; SCD in family, age of SCD, social history included drug use, alcohol use, tobacco abuse and other substances. The ECG was reviewed at rest and if available post exercise.

Findings: Baseline characteristics were similar except for a greater proportion of black males. By logistic regression, factors predictive of presence of lethal variety of anomalous right coronary artery included a history of sudden cardiac death in family, episodes of dizziness and chest, age of range 20-35 and black male. Others include non-specific T wave changes in the inferior lateral leads and T wave inversions on exercise. Each of these variables were given a score based on the regression analysis. This was subsequently applied to the rest of the patients including the original group. Findings are presented.

Conclusion: The LARCALM score predicted the presence of lethal anomalous right coronary artery with a sensitivity of over 50% and specificity of 30%. Accuracy was also noted to be over 20% in this population. There was no difference in outcomes in patients with the lethal variety on medical therapy, which was beta blocker use and cardiac surgery.

---

**CRT-302**

Comparison Between Multislice Computed Tomographic Angiography (MSCTA) and Invasive Coronary Angiography (ICA) in Syntax Score Calculation

Mohamed Abdel Ghany, Khaled El Maghraby
Asisut University, Asyut, Egypt

Background: Syntax Score has been developed to determine the complexity of coronary artery disease and to identify patients at risk for major adverse events following coronary interventions. We aimed to study the feasibility of non invasive Syntax Score calculation by Multislice Computed Tomographic Angiography (MSCTA) and compare it with that obtained from Invasive coronary angiograph (ICA).

Methods: Syntax Score was calculated and compared for 91 consecutive patients (55.8±7.8 years; 76 males) who underwent 64 MSCTA and ICA for evaluation of chest pain. The duration between the two examinations was 10±5 days. Post CABG patients and those with bad image quality in MSCTA were excluded.

Results: MSCTA compared to ICA for diagnosis of >50% stenosis per coronary artery (left main, left anterior descending, left circumflex and right coronary arteries), showed that MSCTA had a specificity of 92.2% (217/235), sensitivity of 97.1% (125/129), negative predictive value of 98.2% (217/221) and accuracy of 94.3% (364/386). Agreement between modalities was high with a kappa of 0.74. There was a positive correlation between MSCTA and ICA Syntax scores (r 0.73, p < 0.000). The mean Syntax score was 15.8 ± 7.16 for ICA versus 16.3 ± 7.6 For MSCTA (Kappa of Cohen 0.66), p 0.000). Bland Altman plot revealed that: the estimated bias was 1.9 ± 3.4 and the most bias occurred with higher syntax score. Lesions per patient were more identified with MSCTA than ICA (2.5 ±1.4 vs. 1.9 ±1.1, p<0.001), with a good degree of agreement (kappa=0.65). Syntax score per lesion was similar with higher degree of