

## ***Predictive value of coronary calcium score above zero in coronary artery stenosis among middle aged Saudi patients referred to computed tomography***

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### ***Abstract***

**T**he rapid socioeconomic growth in Saudi Arabia in the last few decades promoted negative lifestyle changes that increased subclinical and clinical coronary artery diseases (CAD).

**METHODS:** Retrospective cross-sectional study was conducted among adult patients referred to (64 multidetector spiral) computed tomography for standard indications at the Prince Sultan Cardiac Centre (Riyadh, Saudi Arabia) between July 2007 and December 2017. Those with pre-existing CAD excluded from the study. Stenosis was assessed using post-test CT angiography and was recorded as  $\leq 50\%$  and  $>50\%$

**RESULTS:** A total 2849 patients (1797 males and 1052 females) with an average age of  $49.8 \pm 11.7$  years were included in the current analysis. The prevalence of coronary stenosis was 34.9%. The prevalence of  $CCS > 0$  was 27.9% in all patients and 79.5% in those with coronary stenosis. Using operator receiver curve,  $CCS > 0$  has the best discriminative ability irrespective of age and gender. The sensitivity, specificity, positive and negative predictive values of  $CCS > 0$  were 79.5%, 99.7%, 99.4%, and 90.1%, respectively. While specificity of  $CCS > 0$  was close to 100% irrespective of gender and age groups, sensitivity was better in older than younger age (55.3%, 79.4%, and 92.3% in those aged  $<45$ , 45-64, and  $\geq 65$  years and to less extent in males than females (80.2% versus 77.7%). The areas under the curve of  $CCS$  were 0.896 in all patients; 0.899 in males and 0.889 in females; 0.776, 0.895, and 0.962 in those aged  $<45$ , 45-64, and  $\geq 65$  years. After adjusting for traditional risk factors, the area under the curve was 0.942 in all patients; with minor differences by gender and age groups.

**CONCLUSION:** The use of zero cutoff of  $CCS$  is very predictive of coronary stenosis in middle aged Saudi patients referred to cardiac CT. It was specially beneficial to exclude coronary stenosis in both genders, specially in older age. The better discriminative ability of  $CCS$  in older age can be largely explained by differences in traditional risk factors.



### ***Biography:***

I am cardiologist ; board certified of internal medicine and Board certified of Cardiology , Fellowship of cardiac MRI/CT from the university of Toront ( 2 years duration ) , Mini fellowship from Duke unevercity 3 month duration .Head of cardiac MRI/CT in prince Sultan cardiac center . I did present my abstract in interenational confrence (London 2014 . Toronto2015. AbuThabi 2015 )

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