



Chronic CAD/Stable Ischemic Heart Disease

CRACKING THE CODE: USING MULTIDETECTOR CARDIAC COMPUTED TOMOGRAPHY TO EVALUATE GENDER DIFFERENCES IN CORONARY ATHEROSCLEROSIS

Poster Contributions

Poster Sessions, Expo North

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Abstract Category: 9. Chronic CAD/Stable Ischemic Heart Disease: Basic

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Background: Many theories have been posited regarding why females appear to have a 'gender advantage' when it comes to the development of CAD. Here we evaluate gender differences in the incidence and pattern of CAD using multidetector cardiac CTA.

Methods: A total of 1,857 consecutive patients who underwent 64- multidetector CTA scanning and calcium scoring (CS) were evaluated. Subgroup analysis comparing male and female demographic and CT data was performed.

Results: Mean age for the males (1,056 males; 56.9%) was 57.1±13.7 yrs vs. 61.6 ±14.0 yrs for females (p<0.0001). For males vs. females, respectively: LM vessel CS 16.1 vs. 15.5 (p=0.0002); LAD 149.8 vs. 103.0 (p<0.0001); LCX 56.2 vs. 42.5 (p<0.0001); RCA 131.5 vs. 81.6 (p<0.0001). There was a higher proportion of multi-vessel disease in males than females [56.0% vs. 43.3%;p<.0001]. Among the single-vessel disease subjects, however, females had a higher total CS than males (p70%) was significantly higher compared to females (3.3% vs. 1.6%; p<0.03). Multivariate analysis of major stenoses accounting for CAD risk factors demonstrated that males are more likely to have a major stenosis than females (OR=2.5; 95% CI:1.3 to 4.85). There was no statistically significant difference between males and females with respect to overall plaque type except in the LAD where there was a higher proportion of males with non-calcified plaque than females [6.3% vs. 3.2%;p<0.0001].

Conclusion: While the female cohort was older, males had higher average CS in each coronary artery, with a greater tendency to have multivessel involvement. In patients with single vessel disease, however, females had significantly higher CS. These findings speak to a possible protective factor for women where they appear to have the same if not more plaque burden than men in a particular vessel, but their plaque distribution is more diffuse throughout the coronary tree and therefore less obstructive compared to males who have a plaque burden which is focally located leading to possible earlier obstructive events. Our findings may guide future gender-specific targeted therapeutic options.