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Gender-Specific Blood Lipids and Its Association with Coronary Artery Plaque among Saudi Patients Referred to Computed Tomography**Sumaya Marshoud Al Helaly**

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Background: Recent guidelines generally don't recommend the use of lipid lowering medications among those without coronary plaque, irrespective of gender. The rapid socioeconomic growth in Saudi Arabia in the last few decades was associated with increased blood lipids and coronary artery diseases.

PURPOSE: To examine gender-specific differences in the associations of blood lipids with coronary plaque among Saudi patients.

Methods: Retrospective cross-sectional study was conducted among 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 coronary artery disease were excluded from the study. Plaque classification was based on the results of post-test CT angiography and computed tomography. Blood lipids at the time of the computed tomography were used.

Results: A total 2532 patients (1576 males and 956 females) were included in the current analysis. The average age was 49.1±11.7 in males and 52.1±11.0 in females. The majority had mild Framingham risk score (88%), followed by moderate (10.7%) and severe (1.3%). Plaque was detected in 36.4% (7.5% soft and 28.8% calcified) of the patients. Compared with females, males had higher calcified plaque (33.0% vs 22.0%, p<0.001) and more moderate/severe Framingham risk score (18.4% vs 3.6%, p<0.001). Compared with females, males had similar levels of total and LDL cholesterol, lower HDL cholesterol, and higher triglycerides. General linear models adjusted for age, BMI, systolic blood pressure, and fasting glucose showed significant associations of plaque with lower HDL cholesterol and higher triglycerides in males and only higher triglycerides in females.

Conclusion: Middle aged Saudi patients without CAD referred to computed tomography showed different gender-specific associations between plaque and HDL cholesterol. Unlike triglycerides, total and LDL cholesterol were not associated with plaque in both genders