

 **IMAGING AND DIAGNOSTIC TESTING**

VALUE OF FAMILY HISTORY OF PREMATURE CORONARY ARTERY DISEASE AS A PREDICTOR OF OBSTRUCTIVE CORONARY ARTERY DISEASE ON CORONARY CT ANGIOGRAPHY, THE ACIC REGISTRY

ACC Poster Contributions
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Background: Family history (FHx) of premature coronary artery disease (CAD) is an independent risk factor for adverse CV events. The aim of this analysis is to determine whether FHx of premature CAD is associated with higher prevalence of obstructive CAD on coronary CT angiography (CCTA).

Methods: We included 8257 consecutive patients without known CAD who are enrolled in the Advanced Cardiovascular Imaging Consortium of Michigan Registry and underwent CCTA for various clinical reasons. Patients were divided into two groups based on the presence of FHx of premature CAD. Obstructive CAD was defined as luminal stenosis > 70% by CCTA.

Results: Of the 8257 patients included, 39.5 (%) had FHx of premature CAD. Patients with FHx were predominantly caucasians (86% vs 82%, $p < .001$), females (52% vs 43%, $p < .001$) and had higher prevalence of dyslipidemia (56% vs 50%, $p < .0001$). There was no difference in the coronary artery calcification (CAC) score (median=2 in both groups, $p = .70$). Using multivariate logistic regression analysis, FHx was an independent predictor of obstructive CAD on CCTA (OR=1.28, $p < .0001$) along with other known risk factors. (Table 1)

Conclusion: Our study findings suggest that FHx of premature CAD is a significant predictor of obstructive CAD on CCTA. Given the lack of difference in CAC, future studies are needed to evaluate whether FHx of premature CAD is associated with an increased prevalence of non-calcified plaque.

Table 1 - Multivariate regression analysis model: Independent predictors of obstructive CAD

Variable	Odds Ratio	95% Confidence Interval	P-value
Family History	1.28	1.16-1.42	<0.0001
Age	1.08	1.07-1.08	<0.0001
Male gender	3.00	2.71-3.32	<0.0001
African American Race	0.56	0.39-0.80	0.02
Hypertension	1.38	1.24-1.53	<0.0001
Diabetes	1.39	1.20-1.60	<0.0001
Smoking	1.40	1.20-1.54	<0.0001
Dyslipidemia	1.59	1.30-1.56	<0.0001