

Impact of a family history of diabetes on the risk of subclinical coronary atherosclerosis

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Background: We investigated the influence of a family history of diabetes on the risk of subclinical coronary atherosclerosis on coronary computed tomographic angiography (CCTA) in asymptomatic individuals. **Methods:** We analyzed 6,434 asymptomatic individuals without prior history of coronary artery disease (CAD) who underwent CCTA evaluation as a general health examination. Coronary atherosclerotic plaque and significant CAD (stenosis $\geq 50\%$) on CCTA were assessed. Logistic regression analysis was used to determine the association between a family history of diabetes and atherosclerotic plaque or significant CAD according to the degree of diabetes. **Results:** The prevalence of calcified, non-calcified or mixed plaque was not statistically different between individuals with and without a family history of diabetes. However, after stepwise adjustments for clinical variables, a family history of diabetes was associated with non-calcified plaque in diabetic participants (p for all 0.05). **Conclusions:** In asymptomatic diabetic individuals, a family history of diabetes was an independent predictor for non-calcified plaque.

Characteristics	Family history of diabetes			<i>p</i> value
	Total (n = 6,434)	Yes (n = 1,593)	No (n = 4,841)	
Mean CACS	40.4 \pm 139.5	39.4 \pm 125.3	41.2 \pm 143.9	0.652
CACS score 0	4,145 (64.6)	1,005 (63.3)	3,140 (65.1)	
CACS score 1-100	1,626 (25.3)	421 (26.5)	1,205 (25.0)	
CACS score 101-400	490 (7.6)	127 (8.0)	363 (7.5)	
CACS score >400	151 (2.4)	34 (2.1)	117 (2.4)	
Any plaque, no. (%)	2,691 (41.8)	689 (43.3)	2,002 (41.4)	0.183
Calcified plaque	1,810 (28.1)	452 (28.4)	1,358 (28.1)	0.804
Non-calcified plaque	1,180 (18.3)	304 (19.1)	876 (18.1)	0.377
Mixed plaque	570 (8.9)	159 (10.0)	411 (8.5)	0.069
Significant CAD, no. (%)	494 (7.7)	132 (8.3)	362 (7.5)	0.293

Intercoronary communication found in the diagnostic process of the stress induced cardiomyopathy

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A 76-year-old man with no known coronary artery disease presented to an outside hospital with cough, shortness of breath and low extremity edema. An initial resting electrocardiogram revealed Q-wave and ST segment elevation in leads V4-6 and Q-wave in leads II, III, and aVF. Chest X ray showed pulmonary congestion in both lung fields with cardiomegaly. Lab testing revealed troponin I of 0.36 ng/mL, troponin T of 0.165 ng/mL and pro-BNP of 2,749 pg/mL. Transthoracic echocardiography revealed apical akinesia with depressed left ventricular (LV) function, and an estimated ejection fraction of 39%. Emergent coronary angiography showed the posterolateral branch of the right coronary artery (RCA) communication with the distal left circumflex artery (LCx) without significant obstructive lesion in the left coronary arteries (LCA) and the RCA. Simultaneous bilateral coronary angiography showed bi-directional blood flow between distal RCA and LCx. The patient was maintained on an angiotensin receptor blocker, diuretics and aspirin by the suspicious stress induced cardiomyopathy. Follow up echocardiography revealed improved LV systolic function with apical wall motion after 1 month, and has remained symptom-free since.

