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An Outline on Coronary Artery Calcification (CAC)

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Description

Coronary artery calcification means calcium buildup within the walls of the arteries which supplies oxygenated blood to the heart. The result of accumulation of calcium causes the arterial walls to become harder, which is seen in atherosclerosis condition. It may cause narrowing (inside) of the coronary artery, which restricts the blood flow to the heart. Calcium score CT is just a screening test. It helps to treat the patient condition. The result of the Coronary Artery Calcium Scoring CT is usually given as a number called an Agatston score. The score gives the total area of calcium deposited in the coronary arteries and the density of the calcium accumulated. A score of zero means no calcium is seen in the coronary artery. If the calcium levels are present it indicates, the higher risk of heart diseases. If a score is between 100-300 means moderate plaque deposits. It's indicates relatively high risk of a heart disease over the next three to five years. If a score is greater than 300 is a sign of higher risk of heart diseases. The subject is asked to avoid caffeine and smoking for four hours before the test. If the patient had already the history of the heart attack, have a stent, or have CABG procedure, they are at high risk of having calcium score CT would not be beneficial for these types of patients. Percutaneous Coronary Intervention (PCI) procedure includes balloon angioplasty, rotational atherectomy, cutting balloon, stenting, post-dilation and Laser have been used in patients with Coronary Artery Calcium (CAC). The prevalence of CAC is age and gender dependent. Additionally people with higher body mass index, higher blood pressure, abnormal lipid profile, impaired fasting glucose, untreated or treated diabetes mellitus, and a familial history of CAC, chronic kidney disease, and higher C-reactive protein level are more susceptible to CAC. On the other hand, reduction of glomerular filtration rate, hypercalcemia, hyperphosphatemia, parathyroid hormone abnormalities and duration of dialysis are connected to medial calcification. Intimal or superficial and medial artery calcification is the two recognized types of CAC. Atherosclerotic calcification mainly occurs in the intima. Inflammatory mediators and elevated lipid content within atherosclerotic lesions induce osteogenic differentiation of Vascular Smooth Muscle Cells (VSMC), it is associated with advanced age, diabetes, and CKD. There is no established treatment for CAC till date. Atorvastatin 20 mg drug is used to treat the CAC condition. Atorvastatin reduces the low-density lipoprotein cholesterol levels. Hormonal therapy, Calcium-channel blockers, phosphate binders and medicinal supplements have been suggested to reduce CAC progression in small level randomized trials, though large multicenter trials are needed to confirm these findings. Coronary artery calcification may be diagnosed by different types of radiology methods, including CT, x-ray, and MRI. Coronary Artery Calcium Scoring CT is a special CT scan which is used to measure the amount of calcium, giving a patient their coronary artery calcium score. It is recommended for the patients, who are at the moderate risk including high cholesterol, hypertension, diabetes, obesity, or a family history of having coronary artery disease. Several studies had shown that traditional Chinese medicine has therapeutic value on coronary atherosclerotic heart disease, but their no evidences for the study.

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