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Thesis Title

The evaluation of calcium score validity in the diagnosis of patients with coronary artery disease

Year

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Abstract

Coronary artery disease is one of important diseases as in many cases ends up with death. Among many types of coronary artery disease is the lipoprotein plaque deposition on the artery wall. Much research reports have been appeared in the literature concerning the causes, investigation, and treatment.

Conventional angiography was very valuable procedure to investigate and assess the plaque in the walls of the coronary artery also the amount and position of occlusion.

As the Computed Tomography scanners were developed a new noninvasive procedure was invented using the calcium present in the plaque as an indicator for the amount of plaques in the coronary artery. The procedure can also specify the position and the severity of the occlusion. The coronary artery assessment in the plaque is taken as calcium score which based on amount of calcium and plaque formation.

In the present study we were aiming to investigate the validity of the calcium score in the diagnosis of coronary artery disease, and also to find the relation between calcium score with calcification and plaque formation.

Sixty one patients were evaluated 40 male and 21 female who had symptoms chest pain to determine the prevalence and risk factor correlation of coronary artery calcification deposits as a marker of atherosclerosis.

As History of hypertension, age, represents the characteristics of study. And Anthropometric measurements, weight in (kg), height (m), and body mass index (kg/m²). The level of lipid profile for fasting serum of normal and abnormal lipids were analyzed in

Abstract

IV (mmol/L) cholesterol, triglyceride, high density lipid, low density lipid, very low density lipid.
Patients were advised to come fasting and before Computed Tomography Angiography examination. They have been given Beta blocker to reduce the heart rate to less than 60 beats/min. The patients were instructed to lie on the couch of CT scanner and stay relaxed. Contrast mediums were injected by means of injector in vein immediately before scanning. Results revel that not all patients show high calcium score in spite of chest pain on the other hand those patients with high calcium score they also have an increased plaque in their coronary artery. At low calcium score (0-100), Cholesterol, Triglyceride and High density lipoprotein are generally inversely proportional with calcium score with the exception of Low density lipoprotein remains virtually unchanged in the whole range of calcium score (0 > 300). While at high calcium score concentration > 300 these lipoproteins are directly proportional with calcium score in contrast with High density lipoprotein which is inversely proportional with calcium score. 1- Low or zero calcium score does not exclude definitely coronary artery disease in other word a person with low or zero may have a sever occlusion and needs further investigation. 2- The correlation between calcium score with High density lipoprotein, urea and creatinine is increased as the calcium score. 3- Its appears to be that the number of vessel involve calcium score different for different gender.