

The Correlation Between Epicardial Fat Pad and Coronary Artery Disease

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Abstract : The pathogenesis of coronary artery disease is multifactorial. The epicardial fat pad is a localized fat depot lying between the myocardium and the visceral layer of the pericardium. The mechanisms through which epicardial fat pad can cause atherosclerosis are complex. The epicardial fat pad can surround the coronary arteries and contributes to the development and progression of coronary artery disease. Methods: we selected 50 patients who underwent coronary artery angiography for the evaluation of coronary artery disease that results were positive for coronary artery disease. All patients underwent an echocardiographic examination after coronary angiography to measure epicardial fat pad thickness. The epicardial fat pad was defined as an echo-free space between the myocardium's outer wall and the pericardium's visceral layer. Results: The epicardial fat pad was measured on the right ventricle apex in 46 patients. Sixty- five percent of the studied patients were male. The most common vessel with stenosis was the left anterior descending artery. A significant correlation was observed between epicardial fat pad thickness and the severity of coronary artery disease. Discussions: The epicardial fat pad provides a horizon on the pathophysiology of cardiovascular diseases. It directly contributes to the development and progression of coronary artery disease by causing inflammation and endothelial damage. Further investigations are needed to determine whether medical treatment can reduce the mass of epicardial fat pad and can help to improve atherosclerosis. Conclusion: The epicardial fat pad measurement could be used as an indicator of coronary arteries' atherosclerosis. Therefore, thickness measurement of the epicardial fat pad in the clinical practice could be of assistance in identifying patients at risk and if required, undergoing supplementary diagnosis with coronary angiography.

Keywords : epicardial, fat pad, coronary artery disease, echocardiography

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