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Case Report

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A Case of Giant Coronary Aneurysm Presented with Acute Inferolateral Myocardial Infarction

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Abstract

Coronary artery aneurysm is defined as diffuse or segmental dilatation of the coronary arteries more than 1.5 times the diameter of the normal arterial segment. Atherosclerosis is the most common cause in adulthood. In addition, trauma, systemic lupus erythematosus, Marfan syndrome, Kawasaki disease and prior coronary intervention can cause aneurysmal dilatation of the coronary arterial tree. coronary aneurysms can barely cause symptoms and they are usually encountered incidentally during coronary angiography.

Key words: Acute myocardial infarction, Coronary Aneurysm

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Case report

A 70-year-old male patient presented to our emergency department with ongoing chest pain for 2 hours. He has age and hypertension as risk factors. His heart rate was 64 beats per minute, and blood pressure was 110/70 mmHg. Physical examination was in normal range. The electrocardiogram showed ST segment elevation on leads D2, D3, aVF, V5 and V6. He was diagnosed as inferolateral myocardial infarction and transferred to the catheterization unit for primary percutaneous intervention. Coronary angiography revealed diffuse aneurysmatic dilatation of the left anterior descending and circumflex arteries together with total occlusion of the right coronary artery (Figure 1-2). We could not be able to cross the wire through the lesion so procedure was terminated with the decision of medical therapy.

Figure 1: Coronary angiography revealed total occlusion of the right coronary artery.

Figure 2 a

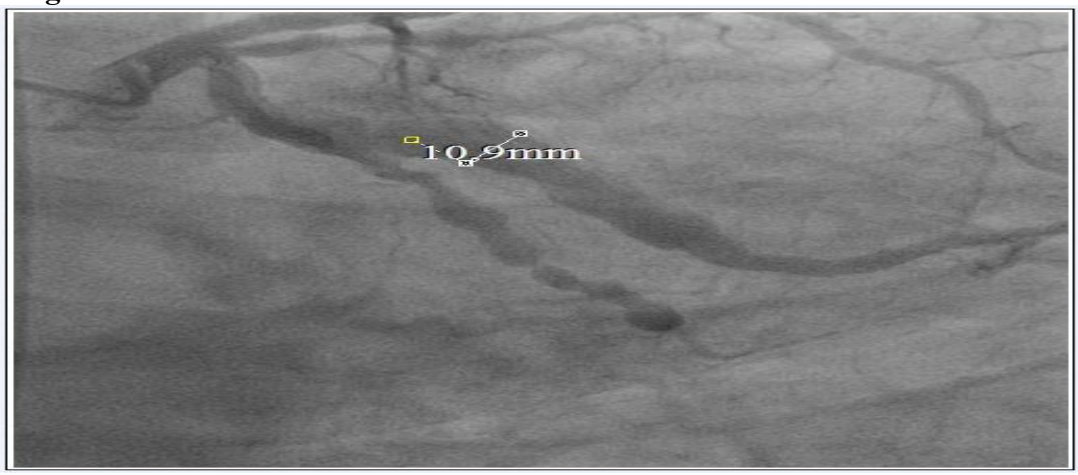

Figure 2b

Figure 2: Coronary angiography revealed diffuse aneurysmatic dilatation of the left anterior descending **(a)** and circumflex arteries **(b)**.

Discussion

Coronary artery aneurysm (CAA), is a rare type of atherosclerotic heart disease, which is defined as dilatation of the abnormal coronary segment more than 1.5 times the diameter of the adjacent arterial segment (1). It was detected in approximately 0.4-4.9% of the cornary angiographies (2). The right coronary artery is the most common involved coronary vessel (3) and it is more common in men (4). It can be either congenital or acquired due to several causes, especially atherosclerosis (5). The most devastating complication of coronary artery aneurysm is myocardial infarction. As it remains silent in life time, it can result in increased morbidity and mortality by causing thrombus formation, distal embolisation, dissection or rupture.

Coronary angiography is the main diagnostic tool in recognizing CAA. The gold standard method to evaluate diameter and characteristics of the arterial lumen and wall. Markins classification is commonly used for angiographic definition of CAA. According to this classification, Type 1 is diffuse dilatation of 2 or 3 vessels, Type 2 is diffuse dilatation of a vessel with localized dilatation of another vessel, Type 3 is diffuse dilatation of a vessel, and Type 4 is defined as localized or segmental dilatation of a vessel.

CAAs are commonly seen with atherosclerotic coronary artery disease (6). Standardizing the treatment of CAAs is challenging because of the rarity of the disease. The treatment of CAAs concomitant with atherosclerotic heart disease is similar to the treatment of atherosclerotic heart disease. Prognosis in isolated CAA is generally good and antiaggregant drugs are the main part of treatment. In patients with CAA with or without atherosclerotic heart disease aspirin use is recommended (7). Vasodilator therapy is also recommended against the vasospasm. However, nitrates should be avoided in isolated CAAs as it causes increased coronary ischemia (8). There is no standardized therapy in patients presenting with acute coronary syndrome, either. In our case the patient presented with acute inferolateral myocardial infarction. We planned to perform primary PCI but as we did not able to cross the lesion, the procedure was terminated and the patient had an uneventful course for six months. There is no consensus in the treatment of these patients in terms of medical therapy, PCI or coronary artery bypass grafting. As left anterior descending artery lesion was not considered as critical, surgery was not an option in our case. The choice of treatment should be determined according to the patient's clinical situation, involved coronary artery, and the diameter and length of the aneurysmal segment.

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