A Rare Cause of Angina Pectoris: Bilateral Multiple Coronary-to-Left Ventricle Fistulas: Case Report

Angina Pektorisin Nadir Bir Nedeni: Koronerden Sol Ventriküle İki Taraflı Çok Sayıda Fistül

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ABSTRACT Coronary-cameral fistulas, abnormal connections of the epicardial coronary arteries and the cardiac chambers or great major vessels are very rare entities. Usually there is only one fistula but multiple rare manifestations were also reported. The multiple fistula especially arising from the all three coronary arteries is usually infrequent and it is a rare cause of myocardial ischemia. Here we describe such a patient complaining of angina pectoris due this rare entity. Coronary angiogram of the patient exhibited the excessive multiple coronary cameral fistulas originating from the left anterior descending, the circumflex and the right coronary arteries and draining into the left ventricular cavity. In the report, factors that may affect the long term prognosis and the treatment strategies were also discussed.

Key Words: Coronary vessel anomalies; angina pectoris; myocardial ıschemia; vascular fistula

ÖZET Koroner arterlerler ile kalp boşlukları veya büyük damarlar arasındaki anormal bağlantılar olarak tanımlanan koroner-kameral fistüller çok nadir olarak görülürler. Genellikle sadece bir fistül bulunmakla beraber çok sayıda fistül ile seyreden olgular da bildirilmiştir. Özellikle her üç koroner arterden birden kaynaklanan çok sayıda fistüller koroner iskeminin ender nedenleri arasındadır. Burada, böylesi nadir bir duruma bağlı göğüs ağrısından yakınan bir hasta sunulmaktadır. Hastanın koroner anjiyografisiyle sol ön inen arter, sirkumfleks arter ve sağ koroner arterden sol ventriküle çok sayıda fistülün varlığı ortaya konmuştur. Raporda ayrıca uzun dönem prognozuna etki edebilecek faktörler ve tedavi seçenekleri de tartışılmıştır.

Anahtar Kelimeler: Koroner damar anomalileri; angina pektoris; miyokard iskemisi; damar fistülü

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A coronary-cameral fistula is a an abnormal connection of epicardial coronary artery and a cardiac chamber or a major vessel like venae cava, coronary sinus, pulmonary artery or veins. They are mostly congenital in origin but they might be acquired either secondary to trauma or after invasive cardiac procedures.[1] They are seen in %0.1 of patients undergoing coronary angiograms.[2] This report describes a patient suffering from angina pectoris due to bilateral multiple coronary to left ventricular fistulas.

CASE REPORT

A 58 year old man presented with angina pectoris and progressive effort dyspnea that was ongoing for the last 10 days. He has a history of hyper-

tension and he was operated in 2002 because of De-Bakey type 1 aortic dissection that did not involve the coronary arteries. His hypertension was under control with 10 mg amlodipin and 40 mg olmesartan. On physical examination, his blood pressure was 130/80 mmHg, and his heart rate was 90 beats/min. Electrocardiography revealed sinus rythm and negative T waves in lateral and precordial leads. Echocardiography showed normal left ventricle size and function but moderate hypertrophy. Coronary artery disease was suspected and coronary angiography was performed. Coronary angiography revealed no hemodinamically significant atherosclerotic lesions in the three major coronary arteries but multiple fistulas that arose from all three major coronary arteries draining into the left ventricle was observed (Figure 1, Figure 2). Due to excessive fistula drainage, the decision of medical follow up was made and 100 mg metoprolol was added to his medical therapy. Partial relief of anginal symptoms was achieved after the medical therapy under follow up of 3 months.

DISCUSSION

Communication between coronary arteries and cardiac chambers is a rare coronary anomaly. The major sites of origin of coronary fistulas are the right coronary artery (55%), left coronary artery (35%) and both coronary arteries (5%).[3] The major termination sites are the right ventricle (40%), pulmonary arteries (17%), and less frequently the coronary sinus and the superior vena cava, and very rarely the left atrium and the left ventricle.[3] Usually there is only one fistula but multiple rare manifestations were reported.[4-6]

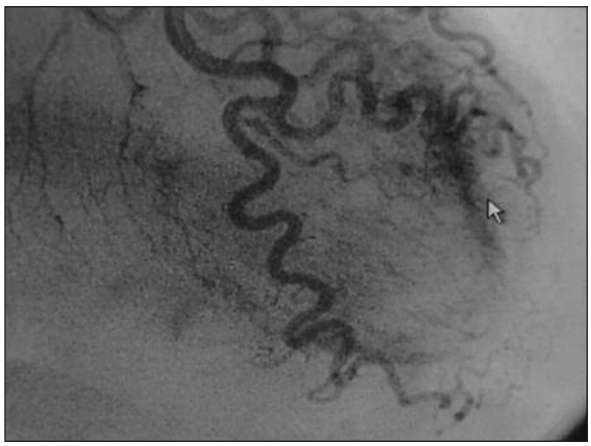

FIGURE 1: Coronary angiogram demonstrating the excessive multiple coronary cameral fistulas originating from the left anterior descending and the circumflex arteries and draining into the left ventricular cavity (arrow head).

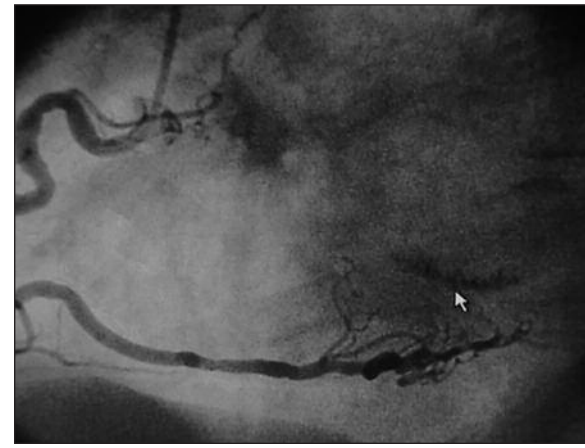

FIGURE 2: The coronary angiographic image demonstrating the multiple coronary cameral fistulas originating from the right coronary artery and draining into the left ventricular cavity (arrow head).

Small fistulas usually have good long term prognosis.[7] But when they are large enough to cause pathological conditions like infective endocarditis, superior vena cava syndrome, arrhythmia, stroke, congestive heart failure and myocardial ischemia, they should be closed by means of surgically or via transcatheter embolisation.[8,9]

In our case, in spite of angina pectoris, because of the multiple excessive fistula drainage to the left ventricle from the all three coronary arteries, the closure of fistulas couldn't be performed. 100 mg metoprolol was begun daily and the decision of medical follow up was made. Under medical therapy, partial relief of anginal symptoms was achieved after the first week of metoprolol therapy and he was clinically stabile under the follow up of previous 3 months.

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