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CORONARY PULMONARY FISTULAE INVOLVING A SINGLE CORONARY ARTERY: A CASE REPORT

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Coronary pulmonary fistulae are rare cardiac anomalies. We present the case of a 44 year-old woman with coronary pulmonary fistulae involving a single coronary artery. She presented with atypical chest pain. Exercise thallium scan study showed no perfusion defect. We diagnosed this case as a coronary artery fistula originating from the proximal left anterior descending artery and draining into the pulmonary artery. The patient also had no abstructive coronary lesion. She has remained well without intervention.

Key word: *Coronary pulmonary fistula.*

Tek koroner arteri içeren koronero-pulmoner fistül: Olgu sunumu

Koronero-pulmoner fistül nadir görülen kardiyak anomalilerdir. Tek koroner arteri içeren koronero-pulmoner fistülü olan 44 yaşında kadın olgusunu sunuyoruz. Hasta atipik göğüs ağrısı tanımlıyordu. Egzersiz talyum sintigrafi çalışması hiçbir perfüzyon defekti göstermedi. Bu olguyu LAD'den köken alan ve pulmoner artere drene olan koroner arter fistülü olarak teşhis ettik. Aynı zamanda, hastada hiçbir obstrüktif koroner lezyon yoktu. Halen, hasta girişimsiz iyi durumdadır.

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Anahtar kelime: *Koroner-pulmoner fistül.*

Congenital coronary artery fistulae joining to the pulmonary artery are rare cardiac anomalies[1-3]. Coronary fistulae are found in only 0.17 % of patients undergoing cardiac catheterisation. In most cases, this anomaly is found by chance by coronary cineangiography, which is considered to be the most reliable method for making a correct diagnosis. We present the case of a 44-yeer-old woman presenting with chest pain who had a coronary-pulmonary fistula.

CASE

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A 44-year-old woman presented with episodes of left parasternal chest pain not related to exertion or meals. She had experienced occasional chest pain at rest. Clinical examination revealed normal pulses and a continous murmur (grade 2/6) in the third intercostal space at the left sternal border.

The blood pressure was 160/90 mmHg. Common Blood Count and blood chemistry including serum electrolyte balance showed no abnormal findings. Electrocardiography at admission showed no signs of myocardial ischemia. Chest X-ray showed a cardiothoracic ratio of 0.5 and no evidence of increased pulmonary blood flow. Transthoracic echocardiogram revealed normal sized cardiac chambers with normal function.

An exercise test was performed using the Bruce protocol. The patient developed no chest pain and significant ST changes in V3-V6 derivations. No perfusion defect was found on exercise thallium scan.

In view of the clinical suspicion of a coronary fistulea cardiac catheterisation and coronary angiogram revealed coronary fistulae arising from the left anterior descending (LAD) artery (Figure 1, 2). The fistulae drained into the pulmonary artery through a separete communications (Figure I, 2). There was no obstructive coronary lesion. Said and El Gamel[4] attempted to classify various types of coronary fistulae. Our patient had small tortuous channels which opened into the pulmonary artery.

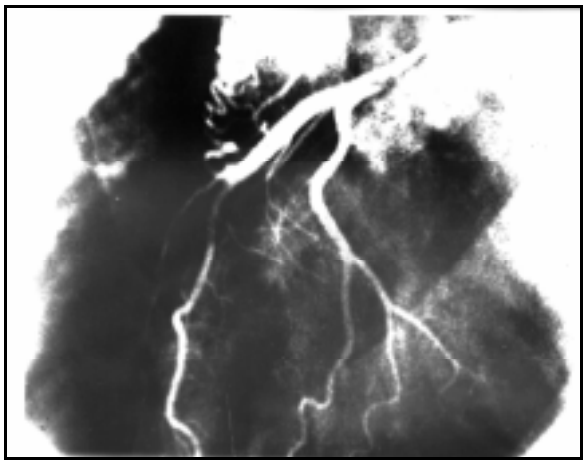

Figure 1. Coronary angiography shows a fistula communicating the LAD.

Our patient has done well on medical therapy for the 14 months of follow-up and has remained event free, except for sporadic episodes of mild chest pain at rest.

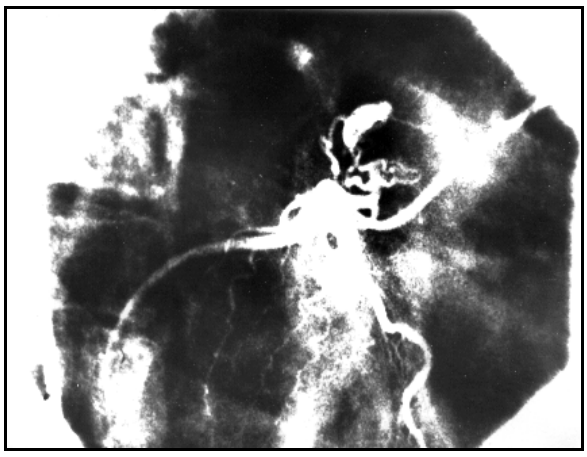

Figure 2. Another coronary angiogram showing a fistula communicating the LAD.

DISCUSSION

Coronary artery fistulae are a rare congenital anomaly. In a large study, coronary fistulae were found in only 0.17 % of patients undergoing cardiac catheterisation. Multiple or large size fistulae only 0.05 % of the study population[1]. The incidence of coronary pulmonary fistulae is similarly reported only to be 0.1 % in another study of 11000 patients undergoing cardiac catheterisation[2]. Vavurannekis et al[3] reported a similar incidence of coronary fistulae (0.1 %) amongst 33600 patients who had diagnostic cardiac catheterisation. All the fistulae in this series arose from a single coronary artery. Said et al reported[4] a case with one fistulous tract arising from each of the three coronary arteries.

Complications associated with this anomaly include aneurysmal rupture, congestive heart failure, myocardial ischemia and endocarditis. The most serious condition is aneurysmal rupture, but this complication is reportedly very rare[5,6]. Chest pain associated with anomaly is explained by the steal phenomenon[7] and often occurs at rest rather than during exercise. Additionally, coronary obstructive lesions have been demonstrated in patients with coronary fistulae as a cause of chest pain[8,9]. Our patient had been healty her entire life expectancy for sporadic episodes of chest pain.

Our patient had coronary fistulae involving the proximal LAD and draining into the pulmonary artery. She did not have any obstructive coronary disease and an exercise thallium scintigraphy revealed no evidence of ischaemia. Our patient had only a small left to righ shunt without signs of right ventricular volume overload. . Because of this, annual follow up with medical therapy was recommended the patient.She remains well without intervention.

Patients with coronary artery fistulae have been shown to have a good prognosis with either conservative or surgical management[2,9]. However, surgical treatment for this anomaly is mainly indicated on the basis of the size of the fistulae and the shunt ratio to prevent rupture or myocardial ischaemia.

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