Congenital absence of left circumflex coronary artery with superdominant right coronary artery

Konjenital sol sirkumfleks koroner arter yokluğuyla birlikte süper-dominant sağ koroner arter

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An anomalous course of coronary arteries is observed in approximately 0.3% to 1.3% of patients undergoing diagnostic coronary angiography (1-3) and in approximately 1% of routine autopsy examinations (4). Congenital absence of left circumflex coronary artery (LCX) is a very rare vascular anomaly in which the artery fails to develop in the left atrioventricular groove. There have been reported a few cases (5-6) in the literature with a reported frequency of only 0.003% in all patients who underwent coronary angiography (3). In the present case, we report a patient in whom the absence of left circumflex coronary artery is associated with superdominant right coronary artery.

A 67-year-old man was admitted to our hospital with chest pain. In 1997, he had been diagnosed as having hypertension and hyperlipidemia. He was a heavy smoker and he had a 2 months history of retrosternal sharp or pressure like chest pain which was sometimes precipitated by effort but often occurred at rest. On admission, his ECG and cardiac enzyme levels were normal. Telecardiography and transthoracic echocardiography were within normal limits. Treadmill exercise electrocardiogram showed 1 mm ST segment depression in leads DII-DIII-aVF. Cardiac catheterization was performed. Left coronary arteriography showed a normal left anterior descending artery (LAD) and absence of LCX (Fig. 1). Right coronary arteriography revealed marked development of posterolateral branch (Fig. 2). There were no obstructive lesions of the coronary arteries. Left ventriculography was normal with an ejection fraction of 62%. Neither aortography nor pulmonary artery angiography showed other coronary artery anomalies leading to a diagnosis of age-

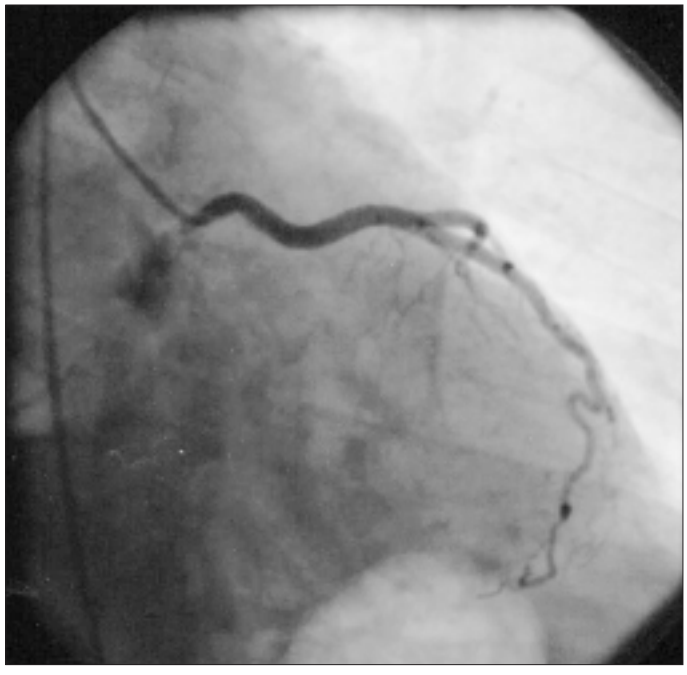

Figure 1. Right anterior oblique caudal view of left coronary injection showing the absence of left circumflex artery

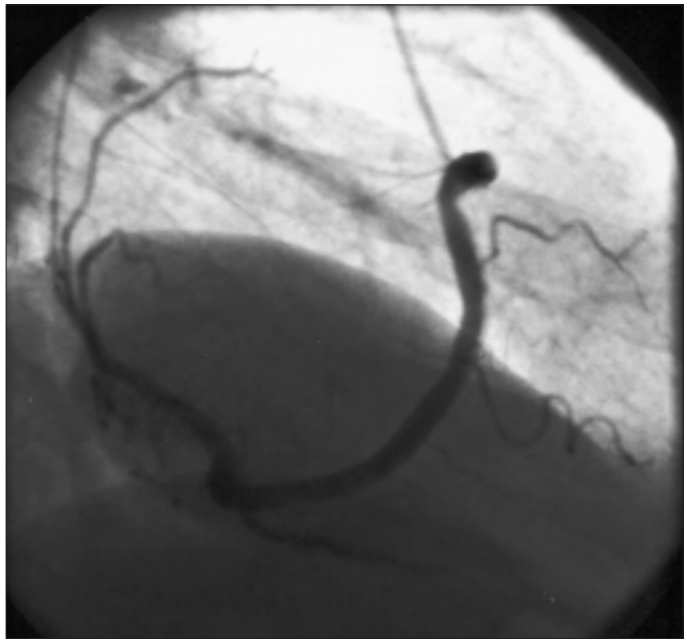

Figure 2. Left lateral view of right coronary injection showing marked development of posterolateral branch as if circumflex artery arising from the distal right coronary artery

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nesis of LCX with superdominant right coronary artery (RCA). Nuclear medical studies did not show any hypoperfused region in the myocardium and it is concluded that absence of a LCX is not of clinical significance in the present case.

Although the absence of a left circumflex artery is regarded as a benign condition (3), some other types of coronary anomalies may be of clinical importance. So, that among low-risk patients with chest pain and a positive stress test, coronary artery anomaly should be considered and an angiographic study should be performed.

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