

Twin Circumflex Arteries Originating from Left Main and Right Coronary Arteries: A Case of a Rare Coronary Anomaly

Sol Ana Koroner ve Sağ Koroner Arterden Köken Alan Çift Sirkumfleks Arter: Nadir Bir Koroner Arter Anomalisi Olgusu

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ABSTRACT Coronary artery anomalies are usually benign and diagnosed coincidentally during conventional coronary angiography or autopsy, although coronary anomalies are the second common cause of the sudden cardiac death in youngs. Circumflex artery originating from an ostium apart from the left main artery is one of the most common coronary artery anomalies. Twin circumflex arteries anomaly were reported rarely in only a few cases. Herein, we present a 50-years old man who was admitted to the hospital with chest pain. Twin circumflex arteries anomaly originating from left main and right coronary arteries detected by coronary angiogram. Atherosclerotic coronary artery disease was also detected and medical treatment was given the patient.

Key Words: Anomalies; coronary arteries; coronary angiography

ÖZET Koroner arter anomalileri gençlerde görülen ani ölümlerden sorumlu patolojiler arasında ikinci sıklıkta yer almaktadır. Koroner anomaliler çoğunlukla iyi seyirlidir ve genellikle koroner anjiyografi sırasında veya otopside rastlantısal olarak tespit edilirler. Sirkumfleks arterin sol ana koroner arterden farklı bir çıkış yeri göstermesi en sık görülen koroner arter anomalilerinden biri olmakla beraber çift sirkumfleks arter varlığı çok nadir olarak sadece birkaç vakada bildirilmiştir. Bu yazıda göğüs ağrısı yakınması ile başvuran 50 yaşında erkek hasta sunuldu. Hastanın koroner anjiyografisinde çift sirkumfleks arter saptandı. Sol sirkumfleks arter sol ana koroner arterden, diğeri sağ koroner arterden köken almaktaydı. Aterosklerotik koroner arter hastalığı eştanısı olan hasta tıbbi tedavi ile takip altına alındı.

Anahtar Kelimeler: Anomaliler; koroner arterler; koroner anjiyografi

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Coronary artery anomalies have been reported in 0.6-1.5% of coronary angiographic evaluations. Most of these anomalies are diagnosed coincidentally.^{1,2} Although there have been several cases of circumflex (Cx) artery originating from right coronary sinus, twin Cx arteries were seen rare.^{2,3} In our case, we reported twin Cx arteries originating from left main and right coronary arteries.

CASE REPORT

A 50-years old male patient was admitted to our hospital with angina during exercise. The electrocardiogram showed that negative T wave in leads V4-V6. Physical examination was normal. Hypertension and cerebrovas-

cular accident were present in his medical history; we performed coronary angiography. Left main, left anterior descending, and Cx arteries were normal and surprisingly, there was a second Cx artery originating from the right coronary ostium as a branch of the right coronary artery (RCA). RCA was occluded at the mid-portion and there was retrograde collateral flow from the anomalous Cx artery to the distal of RCA (Figure 1, 2). The intervention was not performed due to the patient denial. The patient was discharged on optimal medical therapy.



FIGURE 1: Right anterior oblique projection. Circumflex artery arising from the left main stem.



FIGURE 2: Right anterior and left anterior projection. Second circumflex artery arising from the right coronary artery and total occluded right coronary artery.

DISCUSSION

Coronary artery anomalies are usually clinically insignificant, however, may cause chest pain, arrhythmia and heart failure. In particular, some certain types of coronary anomalies are important due to their interarterial course (between aorta and pulmonary artery) or originating from pulmonary artery. Coronary artery anomalies are the second common cause of sudden cardiac death in young athletes.⁴ Most common anomalies of Cx artery are Originating from left anterior descending artery, right coronary sinus or RCA. The classification is based on Cx artery origin; Cx and RCA originate from a separate ostium in right coronary sinus (type 1), RCA and Cx may share the same ostium or have adjacent ostium (type 2), Cx may originate from the RCA as a branch (type 3).⁵ Yorgun et al. reported the incidence of Cx artery originating from left and right coronary sinuses 0.29% and 0.19%; respectively.⁶ It is of importance to elucidate the course of anomalous arteries by coronary computed tomography angiography. It is well known that the Cx artery originating from the right coronary ostium always lies retroaortic and has a benign course. Although it was reported in a study that the risk of stenosis was increased in Cx artery originating from the right coronary sinus than that of Cx artery originating from left main, survival rates were similar during seven years of follow up.⁷

Twin Cx artery anomalies have been reported rare which that originating from both coronary sinuses.^{3,8,9} Karabay et al. reported that a patient with twin Cx artery was admitted to a hospital, with acute inferior myocardial infarction due to left Cx artery occlusion and severe stenosis in the originating from RCA, and percutaneous coronary intervention was performed to both Cx arteries.¹⁰ In our case, we detected twin Cx artery, first originating from left main, and second originating as a branch of right coronary artery which was totally occluded at the mid-portion. The patient did not accept any intervention, and medical treatment has been given.

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