An unusual coronary artery anomaly: type IV double left anterior descending coronary artery

Nadir bir koroner arter anomalisi: Tip IV çift sol ön inen koroner arter

A 64-year-old female was admitted with angina refractory to medical therapy. Hypertension, diabetes mellitus and dyslipidemia were present as risk factors for coronary atherosclerosis. Physical examination and laboratory evaluation revealed no significant pathology. Selective coronary angiography was performed. Initially, during the left system arteriography, a patent left anterior descending coronary artery (LAD) and an occluded left circumflex coronary artery were demonstrated. However, after performing the right coronary arteriography, the left system was reviewed again. A large diagonal branch had been considered as LAD. It was realized that LAD terminated prematurely in its course after giving rise to septal and diagonal branches, and the appearance of an avascular area in the distribution of the LAD and no collateral circulation were seen (Fig. 1). In addition, the right coronary arteriography revealed additional longer artery originating from the proximal portion of the right coronary artery. Its septal perforators and course helped us to accept the artery as LAD (Fig. 2). We realized that this coronary anomaly was a rare type IV double LAD coronary artery. During standard coronary angiography, this aberrant artery might be failed to visualize appropriately. Coronary angiography might also be misinterpreted showing a totally occluded LAD from its mid portion, and inaccurate therapeutic decisions might be made because of the presence of coronary anomalies as a possible and often neglected cause of chest pain. Therefore, double LAD might be considered when left coronary angiography reveals a prematurely terminated LAD in its course and a nonperfused distal area without collaterals.

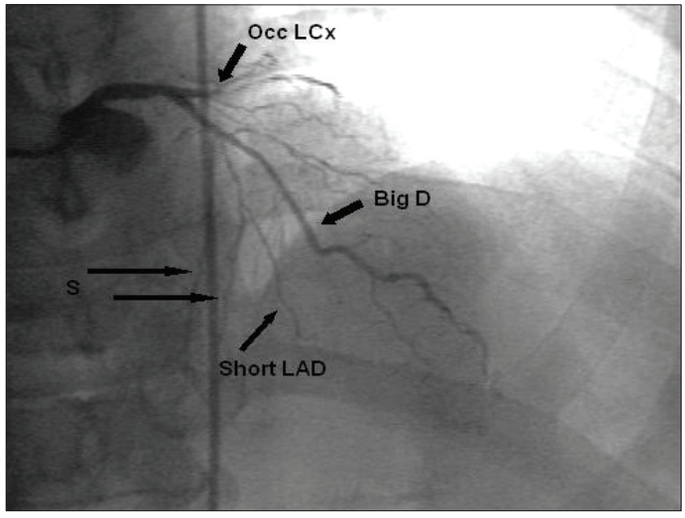

Figure 1. Anterior-posterior cranial view of the left coronary system demonstrating prematurely terminated LAD after giving rise to its septal and diagonal branches, and nonperfused area without collateral circulation. An occluded LCx is also seen

D - diagonal artery, LAD - left anterior descending artery, LCx - left circumflex artery, occ - occluded, S - septal branches

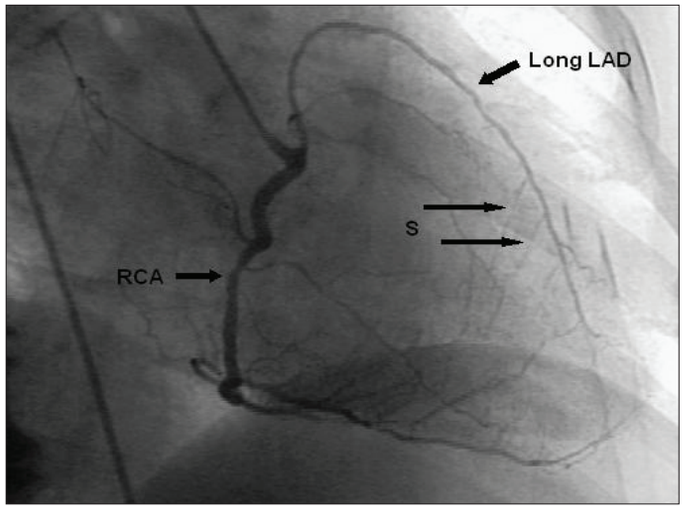

Figure 2. Right anterior oblique view of the right coronary system demonstrating normal positioned RCA and an aberrant coronary vessel originating from proximal RCA and coursing in the anterior interventricular groove

LAD - left anterior descending artery, RCA - right coronary artery, S - septal branches

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Single coronary artery in a patient with acute myocardial infarction: atypical connection of left main coronary artery with left coronary system

Akut miyokard infarktüslü hastada tek koroner arter anomalisi: Sol ana koroner arterin sol koroner sisteme atipik bağlanışı

A 47-year-old man was admitted to the hospital with infero-postero-lateral acute myocardial infarction and immediately transferred to the catheterization laboratory. The left coronary system could not be visualized. Selective right coronary angiography showed a left coronary artery ostium originating from the right sinus of Valsalva. Proximally coursing bifurcation branch of left main coronary artery (LMCA) was occluded just after giving left anterior descending (LAD) branch (Fig. 1). Primary percutaneous coronary balloon angioplasty was performed and TIMI III flow was obtained (Fig. 2).

A 64- slice multidetector computed tomography (CT) was performed at the fifth day of admission. Multidetector CT revealed a single coronary system originating from the right coronary sinus, which was divided into right and left main coronary arteries. After a long course, LMCA was divided into two branches, distal and proximal LAD at the

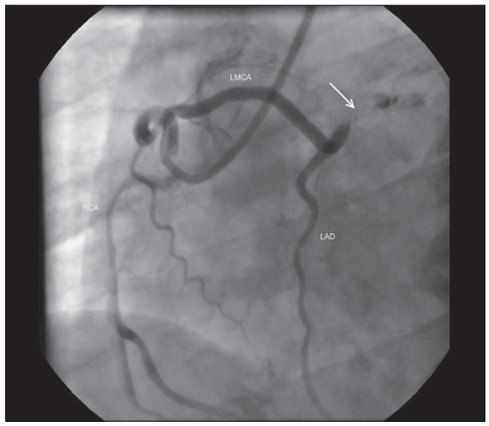

Figure 1. Coronary angiography showing a single coronary artery arising from the right sinus of Valsalva and occluded lesion (arrow)

LAD - left anterior descending artery, LMCA - left main coronary artery

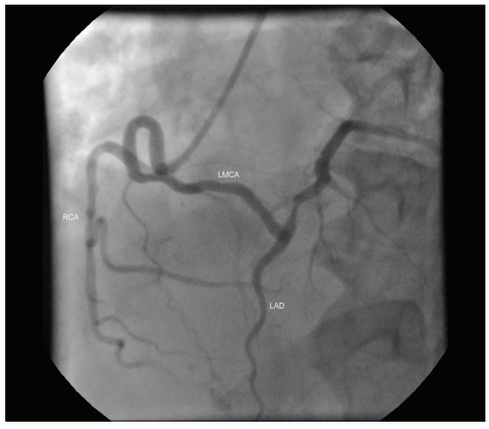

Figure 2. Coronary angiography view after primary percutaneous coronary angioplasty

LAD - left anterior descending artery, LMCA - left main coronary artery

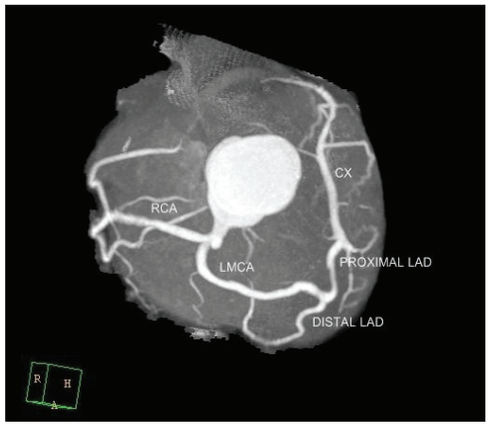

Figure 3. 2D map from 64-detector row gated coronary MDCT angiography shows single coronary artery originating from the right coronary sinus and dividing into right coronary artery (RCA) and left main coronary artery (LMCA). LMCA further is divided into two branches: distal and proximal LAD at the mid zone of anterior interventricular groove

MDCT - multidetector computed tomography

mid zone of anterior interventricular groove. The proximal LAD completing its course continued at the location of circumflex (CX) artery and ended (Fig. 3). Multidetector CT clearly disclosed LMCA coursing in front of right ventricular outflow tract and not between aorta and pulmonary arteries (Fig. 4). Due to this benign course of LMCA, asymptomatic patient was discharged on medical treatment. Although single coronary artery originating from the right sinus of Valsalva detected by CT has been reported, this kind of left coronary system anomaly of has not been seen in the literature so far.

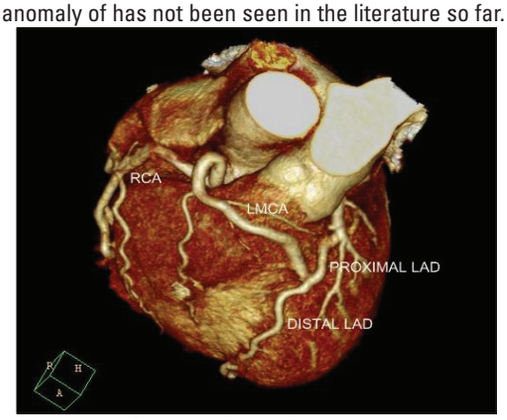

Figure 4. Volume rendering from 64-detector row gated coronary MDCT angiography image shows the anomalous left main artery course and atypical insertion to left coronary system

LAD - left anterior descending artery, LMCA - left main coronary artery, MDCT - multidetector computed tomography, RCA - right coronary artery

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Paraşüt triküspid kapak

Parachute tricuspid valve

Yirmi iki yıl önce ventriküler septal defekt onarımı hikayesi olan 25 yaşında erkek hasta, kontrol muayene için kardiyoloji polikliniğine başvurdu. Kan basıncı ve kalp hızı normaldi. Kardiyak dinlemede sol sternal kenarda 2/6 pansistolik üfürüm duyulması üzerine ekokardiyografiye yönlendirildi. Transtorasik ekokardiyografide sol ventrikül boyut ve sistolik fonksiyonları ile mitral, aort ve pulmoner kapak normal idi. Sağ ventrikül boyutları normal, sağ atriyum hafif genişti. İnterventriküler septumun perimembranöz bölgesinde "yama" ile uyumlu ekojen görüntü mevcuttu. Triküspid kapak hafif kalın yapıda olup, diyastolde sağ ventrikül içine kubbeleşiyordu (Resim 1, Video 1. Video/hareketli görüntüler www.anakarder.com'da izlenebilir). Sistolde ise septal ve anteriyor kapakçıklar sağ atriyum içine hafif derecede prolabe oluyordu. Triküspid kapakçıklara korda veren tek bir papiller kas gözlendi (Resim 2).