A Rare Coronary Artery Anomaly: Type-4 Dual LAD

Nadir Bir Koroner Arter Anomalisi Tip 4 Dual LAD

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A 66-year old woman with a history of hypertension was admitted to our hospital with a complaint of exercise-induced chest pain. Physical examination and electrocardiogram were unremarkable. Transthoracic echocardiography was normal with a 60% left ventricular ejection fraction. The result of exercise-stress test was positive in terms of ischemia. To rule out coronary artery disease, we performed coronary angiography (CAG) (Figure 1). Left CAG revealed a short left-anterior descending (LAD) artery arising from the left coronary sinus and the circumflex (LCX) artery. Rudimentary LAD coursing through the proximal part of the anterior interventricular sulcus and 30-40% atherosclerotic stenosis was detected in the proximal short LAD. The LCX was normal. Right CAG revealed a normal right coronary artery (RCA) and an anomalous long LAD originating from the RCA coursing to the anterior interventricular sulcus and reached the cardiac apex. To better define the coronary artery anomaly, a computed tomography (CT) angiography was also performed (Figure 2). According to the classification of Spindola-Franco, our case was a rare coronary artery anomaly (CAA) known as type-4 dual LAD. The patient was discharged after the administration of anti-ischemic treatment.

CAA is rarely seen in angiographic series about 0.3%-0.8%[1]. The angiographic evaluation of CAA is essential for both coronary artery intervention and surgery involving the coronary arteries. Although CAA is benign in nature and usually asymptomatic, its clinical presentation in adults may result from myocardial ischemia manifesting as angina, syncope, arrhythmias, and even sudden cardiac death[2]. Dual LAD may be associated with congenital heart disease as tetralogy of Fallot and complete transposition of the great arteries[3]. Clinicians should be aware of coronary artery anomalies to facilitate the diagnosis and manage patients properly.

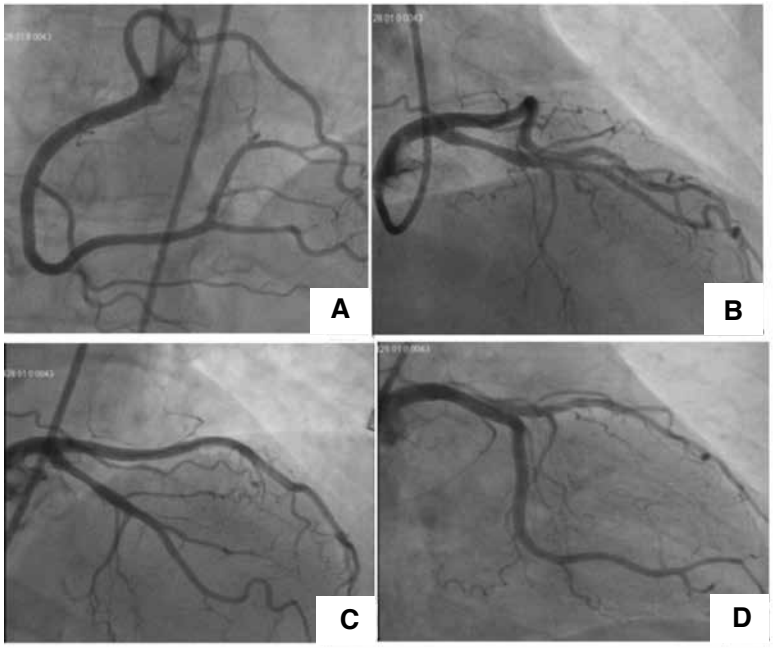

Figure 1. Coronary angiography. **(A)** LAO view reveals the long left anterior descending artery arising from the right coronary artery. **(B) (C) (D)** RAO view shows the short left anterior descending artery arising from the left main coronary artery.

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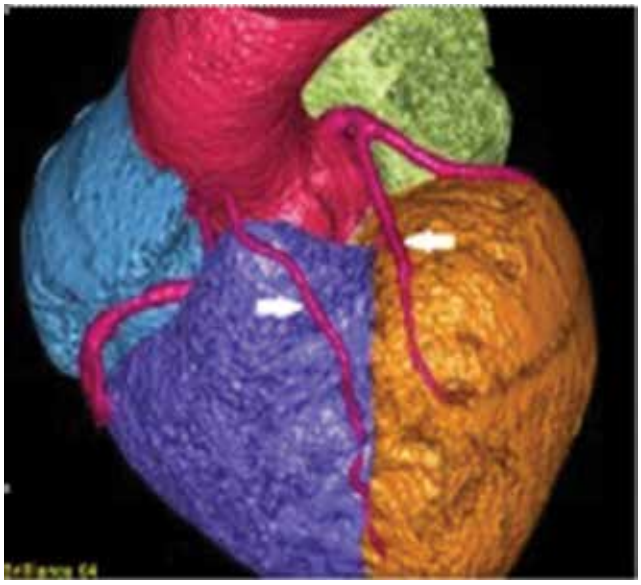

Figure 2. Multislice computed tomography (MSCT) of coronary arteries. The short left anterior descending (LAD) from the left main coronary artery,coursing through the proximal anterior interventricular septum (right white arrow) and the long LAD artery from the right coronary artery coursing along the distal anterior interventricular septum (left white arrow).

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