

Left circumflex coronary artery originating from left anterior descending artery and first diagonal branch: Computed tomography angiography findings of extremely rare two cases

Sol ön çıkan arter ve birinci diyagonal daldan köken alan sol sirkumfleks koroner arter: Oldukça nadir iki olgunun bilgisayarlı tomografi anjiyografi bulguları

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Coronary artery anomalies can be seen as benign abnormalities, which are common and often asymptomatic, or as malignant anomalies which cause serious consequences, leading to sudden death. These anomalies, which were demonstrated by catheter angiography in the past, are more commonly seen with the widespread use of computed tomography angiography (CTA) and the advantages it provides to catheter angiography.^[1]

The anomalous origin of the left circumflex coronary artery (LCx) from the left anterior descending artery (LAD) is limited to a few cases in the literature.^[2,3] In this article, we present CTA findings of two cases with LCx variations of anomalous originating from LAD (Case 1) and the first diagonal branch (D1) of the LAD (Case 2). These two cases are good examples for CTA findings of these extremely rare variations.

Having sufficient knowledge about coronary artery anomalies is important in ensuring the correct cannulation timely and managing the patient appropriately without over- or underestimation, particularly in cases requiring urgent catheterization.^[2]

Case 1- A 59-year-old woman with a left internal mammary artery (LIMA) graft to LAD was evaluated by cardiac CTA due to newly developed angina and suspicious effort test findings. The CTA revealed an occluded LIMA graft, which could explain the symptoms of the patient. There was no LMCA bifurcation and LMCA continued as LAD in the interventricular sulcus. The proximal portion of the LAD giving a thin first diagonal branch (D1) an arterial branch of first diagonal artery which returning to superolateral and moving toward the left atrioventricular sulcus was evaluated as LCx.

Case 2- A 44-year-old male with a low probability for coronary artery disease was evaluated with cardiac CTA due to atypical chest pain. Electrocardiography-triggered CTA images showed no LCx originating from the left main coronary artery (LMCA). However, the LMCA continued as the LAD in the anterior interventricular sulcus and LCx was separated from the LAD as the first branch which turned superolateral and arrived in its normal course.

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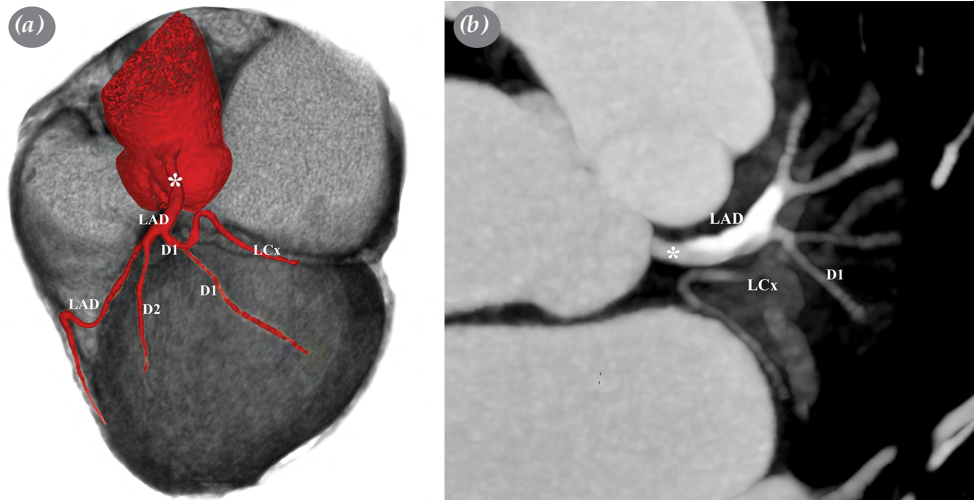


Figure 1. (a) Volume rendered and (b) axial maximum intensity projection computed tomography angiography images of Case 1. LMCA continues as LAD in interventricular sulcus and, then, the first diagonal branch and continues in its normal course. Proximal portion of D1 gives a branch, creating a curve and turning superolateral to arrive its normal LCx course.

*: Left main coronary artery (LMCA); LAD: Left anterior descending artery; D1: Diagonal branch of LAD; LCx: Left circumflex artery.

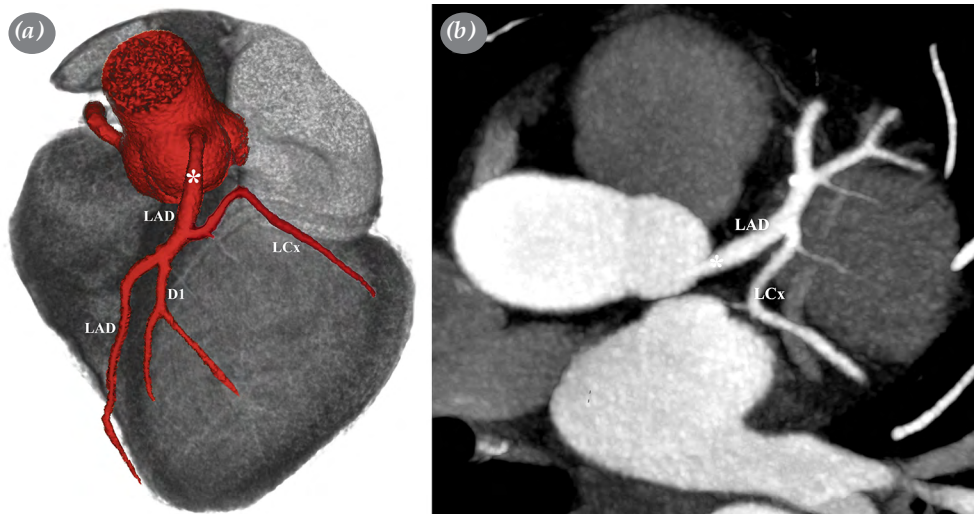


Figure 2. (a) Volume rendered and (b) axial maximum intensity projection computed tomography angiography image of Case 2. LMCA continues as LAD in interventricular sulcus and, then, the first branch and turns superolateral to arrive its normal LCx course.

*: Left main coronary artery (LMCA); LAD: Left anterior descending artery; D1: Diagonal branch of LAD; LCx: Left circumflex artery.

Declaration of conflicting interests

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