

Reevaluating the Case of an Allegedly Absent Circumflex Artery: A Detailed Analysis of İnce et al.'s Report

To the Editor,

We read with great interest the article by İnce et al¹ published in your esteemed journal. This article presents a rare case of an absent circumflex artery; however, upon studying the case, we have identified several points of uncertainty and would like to share our thoughts on this case.

We contemplate that the patient might have an unusually long left main stem, and the circumflex artery, emerging later and being underdeveloped, could explain our observations. Our reasoning is based on several points from the coronary CT angiography (CTA) images provided by the authors. First, the circumflex artery typically emerges from the left main stem and courses through the left atrioventricular groove to supply the lateral wall of the left ventricle. However, the 3D reconstruction image in Figure 2A does not adequately display the vasculature of the left ventricular lateral wall. Secondly, Figure 2B shows the surface reconstruction imaging of the left main stem and the left anterior descending artery. This imaging modality is only suitable for assessing the specified vessels and hence cannot be used as evidence for the presence or absence of the circumflex artery. Thirdly, combining Figure 2C and 2D, in Figure 2C, the right coronary artery appears to terminate after supplying the posterior wall of the left ventricle, becoming slender toward its distal end. However, the post-processed image in Figure 2D shows the distal right coronary artery extending toward the anterior wall of the left ventricle with a larger diameter than what is depicted in Figure 2C, which is inexplicable. Fourthly, the authors did not provide the original axial images of the coronary CTA, which are essential in cases with doubts. Traces should be sought in the original images rather than relying solely on post-processed indirect images. Based on these points, we consider that the evidence for the absence of the circumflex artery in this patient is insufficient, as the presence or absence makes a fundamental difference.

In a study involving 100 normal-sized postmortem hearts, it was found that the average length of the left main coronary artery was 5.5 mm.² The case reported by İnce et al¹ is considered to have an abnormally long left main stem, and the course of its long left main stem and circumflex artery is similar to that of the circumflex artery reported by Khurana et al³. In the case reported by Khurana et al,³ the left main coronary artery exceeded the usual length (measuring 19.2 mm) before bifurcating into the left anterior descending artery and the left circumflex artery. The left circumflex artery traversed the anterolateral wall of the basal segment of the left ventricle, then turned posteriorly (making a 90° turn) to return to the distal left atrioventricular groove. The proximal part of the left atrioventricular groove, usually occupied by the left circumflex artery, was empty due to the elongated left main stem and its distal bifurcation. Therefore, considering the images provided by the authors and similar cases, we believe that the patient does not have an absent circumflex artery.

LETTER TO THE EDITOR

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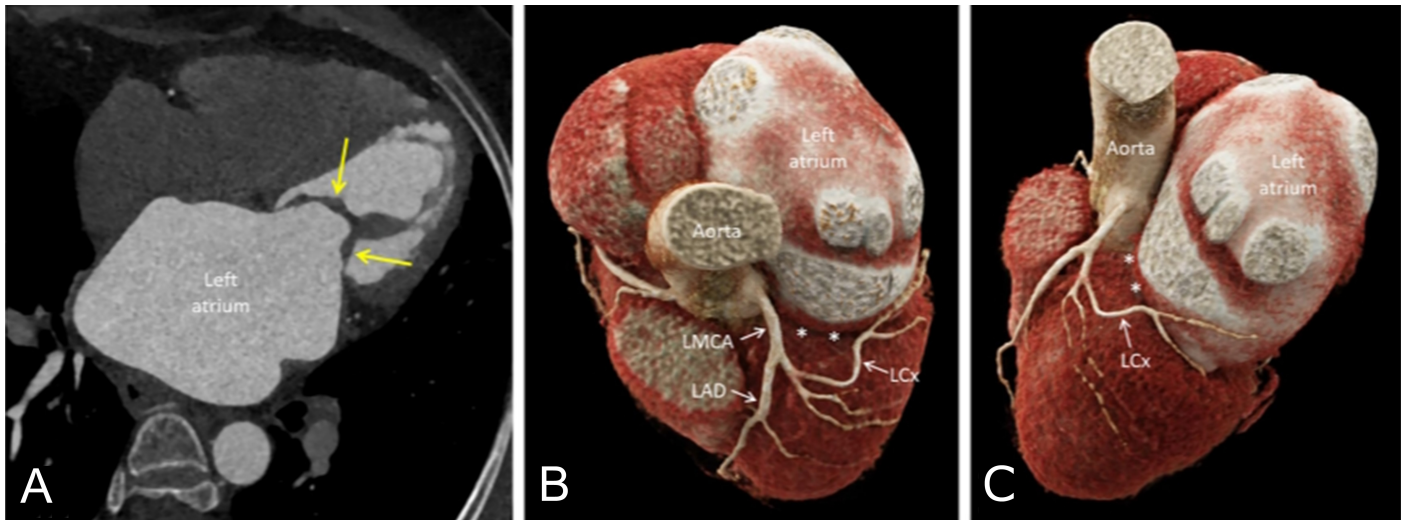
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SUPPLEMENTARY SUPPORTING MATERIALS



The case reported by Khurana et al³ fully demonstrates the vasculature of the lateral wall, showing the elongated left main stem and the tortuous course of the circumflex artery, which emerges later.



In the case reported by İnce et al¹ (Figure 1C), the black arrow is considered to indicate the circumflex artery, and the red line simulates the course of the circumflex artery.