Coronary artery anomalies (CAA) are a diverse group of congenital disorders, and the pathophysiological mechanisms and manifestations are highly variable. Several controversies remain in terms of its incidence, classification, screening, heredity and treatment. Most of them are discovered as incidental findings during coronary angiographic studies or autopsies (1-3).

A vessel is considered superdominant when it supplies the myocardium normally perfused by the other vessel (4). The occurrence of a superdominant left circumflex (LCx) artery supplying the territory of the right coronary artery (RCA) is an extremely rare phenomenon (4,5). It has also been described in the literature as anomalous RCA originating from the LCx.

A 74-year-old woman complaining of stable angina at moderate efforts, with a positive treadmill test was then referred to elective coronary angiography. The LCx showed a superdominant pattern, with various obtuse marginal, posterior descending and posterolateral branches, extending beyond the crux cordis, circling the atroventricular groove, following the expected path of the absent RCA (Figures 1-6). Aortograms and non-selective injections of contrast media into the right coronary sinus showed no emergent arteries, confirming the congenital absence of the RCA (Figure 7). There was noted a marked stenosis at the ostium and the proximal portion of a large inferior branch of the second obtuse marginal, which was successfully treated with the deployment of a drug-eluting stent.

The multi-detector row computed tomography (MDCT) coronary angiography allows accurate and noninvasive depiction of CAA. Unfortunately, due to public health system limitations, this patient was referred to the invasive angiography instead of the MDCT.
can be mistaken for an ostial RCA occlusion. Any attempt at revascularization may result in inadvertent injury (e.g., perforation of the coronary sinus by forceful manipulation of the guidewire).

All interventional cardiologists and cardiac surgeons should be familiar with these anatomic variants since accurate recognition of the course and distribution of the coronary vessels is crucial for proper revascularization strategies in the presence of coronary artery disease.
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Footnote

Conflicts of Interest: The authors have no conflicts of interest to declare.

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