

# Review of the Literature: Right Coronary Artery Originating from the Lesser Curvature of the Transverse Aorta



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## ABSTRACT

Right coronary artery (RCA) anomalies, although rare, are present among other coronary artery anomalies. However, to date, there has not been a case report in literature that described an RCA originating from the lesser curvature of the transverse aorta. Here, the clinical and angiographic characteristics of an RCA originating from the lesser curvature of the transverse aorta are reported.

**Key Words:** Coronary artery stenosis; stent

## Literatür İncelemesi: Aortanın Küçük Kurvaturundan Çıkan Sağ Koroner Arter

### ÖZET

Koroner arter anomalisi sık olmamakla beraber ülkemizde de görülen bir anomalidir. Fakat biz bu olgu sunumunda daha önce hiç bildirilmemiş, aortanın küçük kurvaturundan çıkan koroner arter anomalisini tanımladık. Olgunun tüm görüntüleri ile beraber kliniğini rapor ettik.

**Anahtar Kelimeler:** Koroner arter darlığı; stent

## INTRODUCTION

Coronary artery anomalies are more frequently encountered by the common use of coronary angiography. In accordance with angiographic data, the appearance frequency of coronary artery anomalies varies between 0.6% and 1.6%<sup>(1-4)</sup>. Coronary artery anomalies cause the clinical symptoms of ischemic heart disease in 50% cases. On the other hand, symptoms of congestive heart failure, arrhythmia, and syncope as well as sudden death have infrequently been reported<sup>(5)</sup>. As noted in our country and in the cases reported to date, the right coronary artery (RCA) anomalies are rarer than any other coronary artery anomaly<sup>(6,7)</sup>. These anomalies are typically reported as origin anomalies. However, in the literature, an RCA originating from the lesser curvature of the transverse aorta has not yet been reported.

In our case report, coronary angiography intervention was processed via the right radial approach. We detected an RCA originating from the lesser curvature of the transverse aorta, following which a right radial approach percutaneous coronary intervention was performed.

## CASE REPORT

A 72-year-old woman presented to our hospital with stable angina pectoris. Diabetes and hypertension were present in her history. Her electrocardiography (ECG) showed chronic atrial fibrillation and ST segment depression on inferior and lateral derivations. The patient had been receiving anti-hypertensive (an AII antagonist and a beta-blocker), antidiabetic (insulin and oral antidiabetic drugs), and statin treatment. Coronary angiography was performed in Beylikdüzü Kolan Hospital. There were non-critical stenoses in the LAD and LCx. However, RCA was not found at the right sinus Valsalva. RCA was found at the lesser curvature of the transverse aorta using an AL1 diagnostic catheter (Figure 1). However, a critical stenosis was found in the proximal RCA (Figure 1). This lesion was confirmed using an AL-1 guiding catheter. Drug eliciting stent was successfully placed (Figure 2). Moreover, we show the absence of any critical lesion following stent implantation (Figure 3).

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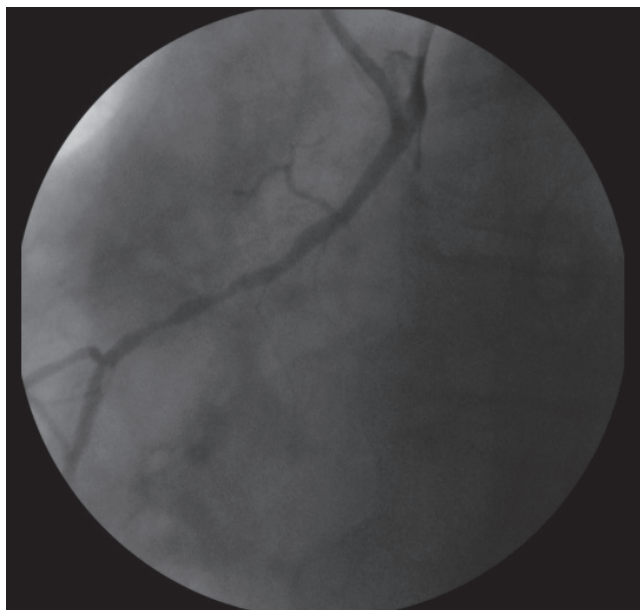
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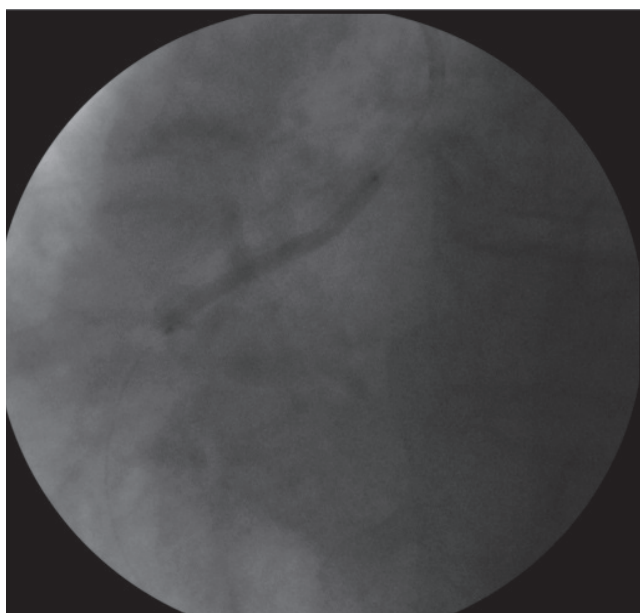
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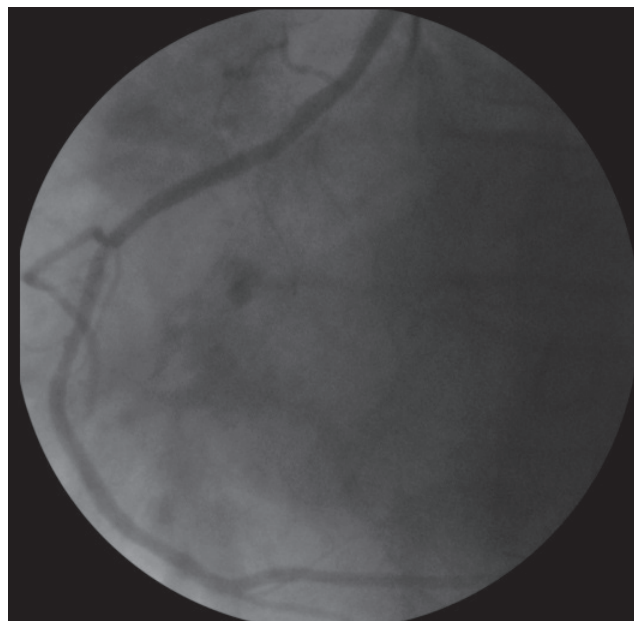
**Figure 1.** The RCA originating from the lesser curvature of the transverse aorta (which was viewed from the left anterior oblique position).



**Figure 2.** During the percutaneous coronary intervention.

## DISCUSSION

According to our observations, RCA anomalies are more frequently reported in our country compared with other countries<sup>(6,7)</sup>. However, these anomalies are typically origin anomalies, with the RCA originating from the Valsalva sinus or a nearby location. In our case, interestingly, the RCA was originating from the lesser curvature of the transverse aorta.



**Figure 3.** The RCA following percutaneous coronary intervention.

Considering this aspect, our case is the first among other cases reported in the literature. Another special point about our case is that although the process was completed using the right radial approach, the RCA originating from the lesser curvature of the transverse aorta was visualized using catheterization, and the percutaneous coronary intervention was successfully performed.

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