

# Aberran Sağ Ventriküler Koroner Arter: Olgu Sunumu

## ABERRANT RIGHT VENTRICULAR CORONARY ARTERY: CASE REPORT

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### Özet

Bu yazıda sağ koroner sinüsten sağ koroner arter ile aynı ostiumdan çıkan, yüksek yerleşimli ve iyi gelişmiş bir sağ ventriküler koroner arter anomalisi bulunan 50 yaşında bir bayan hasta sunulmaktadır. Koroner arter anomalileri tüm koroner anjiyografi olgularında kabaca %0.64-1.2 sıklıkta görülür. Koroner arter anomalisi bulunan olguların koroner anjiyografi ve/veya kalp cerrahisi uygulanacak hastalarda gösterilmesi önemlidir.

**Anahtar kelimeler:** Koroner arter, aberran, sağ ventriküler arter, koroner anomalisi

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### Summary

This case describes a 50-year-old woman with the abnormal origin of a right ventricular branch of the right coronary artery originating from the same ostium in the right coronary sinus. Coronary artery anomalies, constitute roughly 0.64% to 1.2% of all the representations encountered during coronary angiography. We suggest that the presence of such a vessel must be shown in patients undergoing coronary angiography and/or cardiac surgery.

**Keywords:** Coronary artery, aberrant, right ventricular artery, coroner anomaly

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### Introduction

Coronary artery anomalies are not uncommon entities found on cardiac catheterization, at the time of surgery, and on post mortem examination [1-3]. Although some primary congenital coronary anomalies may be associated with serious cardiac events such as sudden cardiac death, most of them are clinically benign [3]. So, they are occasionally detected incidentally by coronary angiography [2].

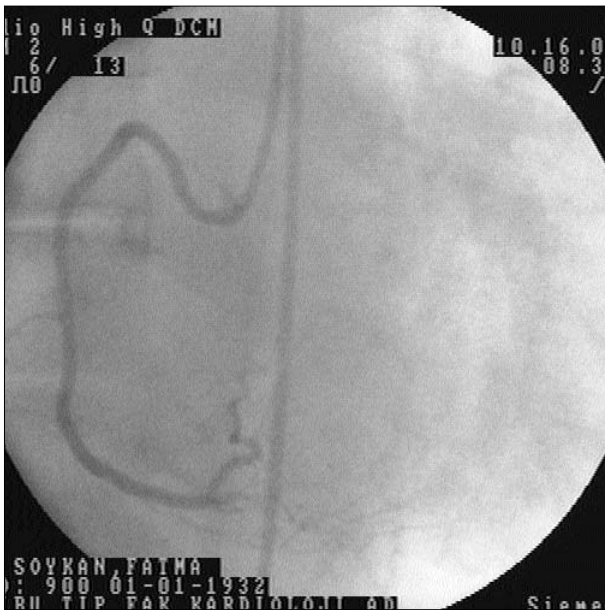
### Case

A 50-year-old woman admitted to our cardiology department with progressive dyspnea on exertion of two years duration. She did not have history of any heart disease and risk factor for coronary artery disease. Blood pressure was 130/50 mmHg and heart rate was 90 bpm. She had physical signs of aortic regurgitation and heart failure. Chest X-ray showed an enlarged cardiac silhouette. Electrocardiography showed left ventricular hypertrophy. Echocardiography showed severe aortic regurgitation and mild to moderate mitral regurgitation with mild pulmonary hypertension and normal left ventricular systolic function. Coronary angiogram was performed prior to aortic valve replacement. The right coronary artery (RCA) was evaluated by left anterior oblique and right anterior oblique views. Right coronary artery injection showed opacification of an aberrant coronary artery arising from the right coronary

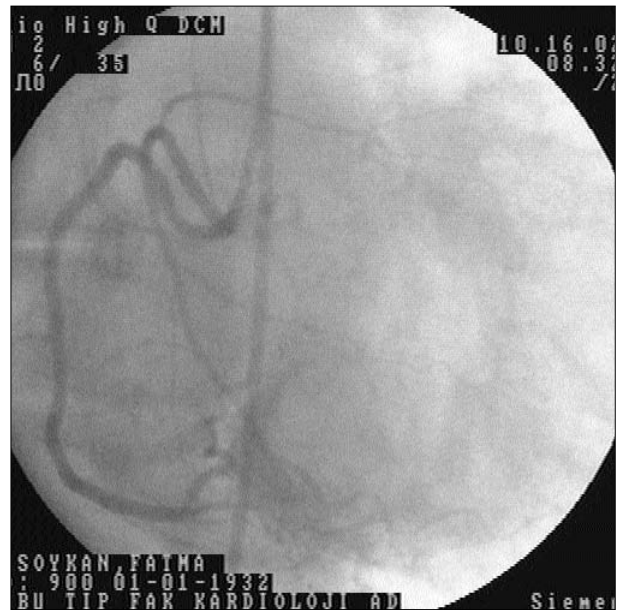
sinus and coursing down the right-atrioventricular groove. While attempting injection into the RCA, a fully opacified normally RCA was shown beyond 13th frame, but a second aberrant coronary artery was opacified when we pulled back the catheter slightly at the 35 frame (Figure 1A - 1C). The first more inferior artery was normally located RCA and it was coursing after the origin of the conus artery and one acute marginal branch, descending beyond the acute margin of the heart and terminated as a large posterior descending artery and a small postero-lateral branch. But there was not right ventricular branch. The second and more superior artery was descending through the right ventricular apex and considered as aberrant origin of a large right ventricular artery (Figure 2). Both arteries were free of any atherosclerotic disease. Left coronary artery system was normal except for absence of the left main coronary artery due to separate origins of the left anterior descending artery and left circumflex artery. Aortic root angiography showed severe aortic regurgitation and left ventricular angiography showed mild mitral regurgitation. The patient was operated successfully and she was free of symptoms for 6 months.

### Discussion

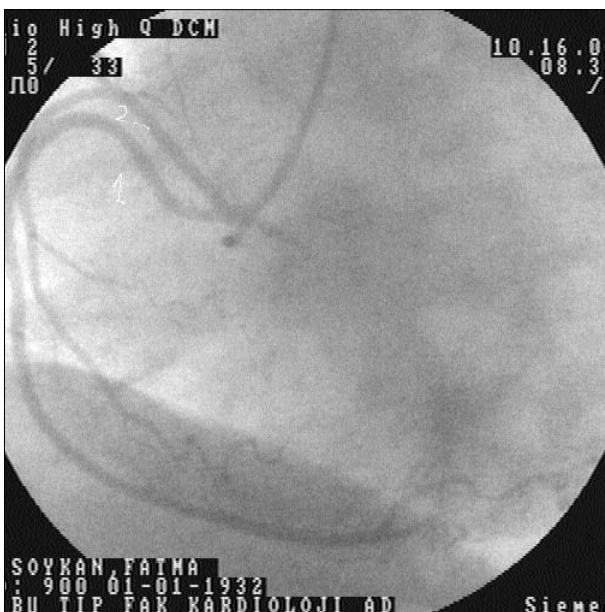
Prevalence of coronary artery anomalies are about 1% of all coronary angiogram and its prevalence vary according to accurate description of anomalies [3]. The knowledge of those



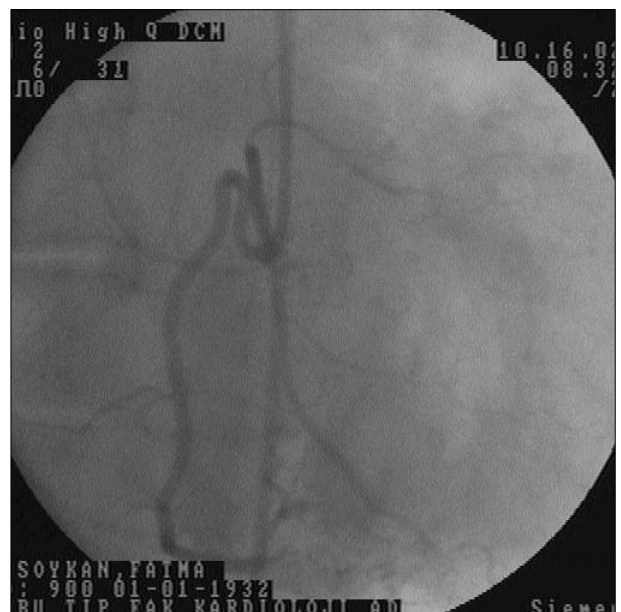
**Figure 1a.** Right coronary artery at left anterior oblique projection.



**Figure 1b.** Right coronary artery at left anterior oblique projection.



**Figure 1c.** Right coronary artery at left anterior oblique projection.



**Figure 2.** The right ventricular branch of the right coronary artery originating from a same ostium in the right coronary sinus at right anterior oblique projection.

variations could be important in regard to invasive catheter treatment or bypass surgery. Certain types of these anomalies (ostial lesions, passage of a major artery between the walls of the pulmonary trunk and aorta, myocardial “bridges”) may be more likely to produce ischaemia with subsequent myocardial infarction [4]. Coronary arteries with abnormal origin, constitute roughly 0.64% to 1.2% of all the representations encountered during coronary angiography. Aberrant origin of the right ventricular branch of the RCA is a rare congenital

abnormality [1]. The most commonly seen congenital coronary anomaly is the abnormal take-off of the circumflex artery from the right coronary sinus or the right coronary artery [5].

During the injection of right coronary artery, the absence of right ventricular branch made us to find another artery. The potential importance of this artery is demonstrated by the case in which important collateral flow was provided by it to major coronary arteries beyond the area of stenoses [2]. Other

situations in which knowledge of the existence of this anomalous vessel could be important would include cardiac surgery, during which failure to recognize this vessel could result in failure to assure perfusion of significant areas of myocardium. It is possible that unrecognized and unbypassed significant obstruction of this artery in a patient felt to be otherwise completely revascularized could result in residual and confusing symptoms.

We suggest that, presence of such a vessel must be shown in patients undergoing coronary angiography and/or cardiac surgery for prevention of associated complications and achieve complete revascularization.

## References

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