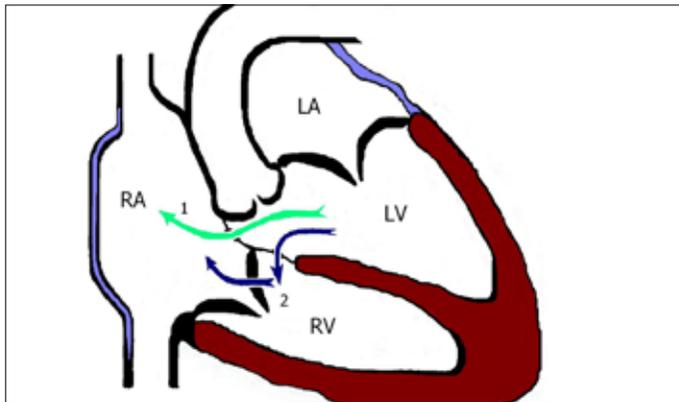


**Figure 5.** Two-chamber (120°) transesophageal echocardiography views of subaortic membrane (arrow-a) and the turbulent flow (arrow-b) in the left ventricular outflow tract

Ao - aorta, Av - aortic valve, LA - left atrium, LV - left ventricle



**Figure 6.** Schematic representation of Gerbode defect types. Defect number one (1) is the supraventricular (direct) type, where blood flows directly from the left ventricle to the right atrium. Membranous interventricular septum is divided into two parts by the septal leaflet of the tricuspid valve as supraventricular and infravalvular. Defect number two (2) is the infravalvular (indirect) type. The defect here is at the inter-ventricular septum below the tricuspid septal leaflet. Blood goes from the left to the right ventricle, and then to the right atrium

LA - left atrium, LV - left ventricle, RA - right atrium, RV - right ventricle

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**Available Online Date/Çevrimiçi Yayın Tarihi:** 26.12.2012

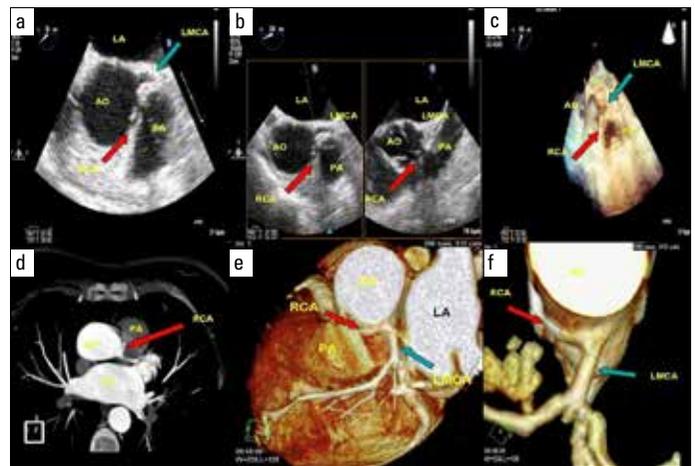
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doi:10.5152/akd.2013.056

## Anomalous origin of the right coronary artery from the left sinus of Valsalva

*Sol sinüs Valsalva'dan kaynaklanan sağ koroner arter çıkış anomalisi*

A 50-year-old female patient was admitted to our service with complaints of dizziness and blackouts, occurred on exercise which had started for weight loss 10 days ago. The patient had never made like an exercise before and had never angina, palpitation or dyspnea symptoms. Physical examination findings were normal. Electrocardiography shows normal sinus rhythm. Transthoracic echocardiography (TTE) revealed



**Figure 1.** a) TEE image from 35° upper esophageal level shows an anomalous origin of the right coronary artery from the left sinus of Valsalva, b) TEE image from 20° upper esophageal level shows an anomalous origin of the right coronary artery from the left sinus of Valsalva and courses between the aorta and the pulmonary artery, c) 3D RT TEE shows an anomalous origin of the right coronary artery from the left sinus of Valsalva and courses between the aorta and the pulmonary artery, d) Coronary CT angiography axial image show that RCA originates from left sinus Valsalva with LMCA and courses between ascending aorta and pulmonary artery, e and f) Coronary CT angiography volume-rendering images show that RCA originates from left sinus Valsalva with LMCA and courses between ascending aorta and pulmonary artery

CT - computerized tomography, TEE - transesophageal echocardiography, 3D RT TEE - 3 - dimensional real - time transesophageal echocardiography, LMCA - left main coronary artery, RCA - right coronary artery

ejection fraction of 65%, and normal left ventricular wall motions and valve function. Transesophageal echocardiography (TEE) performed due to suspicion of anomalous origin of right coronary artery on basal short-axis view of TTE. Aortic short-axis view on TEE revealed, both right coronary artery (RCA) and left main coronary artery (LMCA) were originated from the left sinus Valsalva and RCA was extending through to anterior after passing between aorta and pulmonary artery. Diagnosis of anomalous origin of RCA was corrected with 3-dimensional real-time TEE (Fig. 1a-c and Video 1-4. See corresponding video/movie images at [www.anakarder.com](http://www.anakarder.com)). Extension of RCA was the same as TEE findings and there was no lesion of coronary arteries in the 64-slice multidetector computerized tomography (Fig. 1d-f). Holter recordings were normal and Technetium-99m scintigraphy findings were normal. The patient was started medical therapy. The patient is on regular follow up. A rare coronary artery anomaly can be diagnosed with a careful echocardiographic examination.

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**Video 1.** TEE image from 65 degree upper esophageal level shows an anomalous origin of the right coronary artery from the left sinus of Valsalva

**Video 2.** TEE image from 35 degree upper esophageal level shows an Anomalous origin of the right coronary artery from the left sinus of Valsalva and courses between the aorta and the pulmonary artery

**Video 3.** TEE image from color Doppler 35 degree upper esophageal level shows an anomalous origin of the right coronary artery from the left sinus of Valsalva and courses between the aorta and the pulmonary artery

**Video 4.** 3D RT TEE shows an anomalous origin of the right coronary artery from the left sinus of Valsalva and courses between the aorta and the pulmonary artery

3D RT - 3 - dimensional real - time, TEE - transesophageal echocardiography

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**Available Online Date/Çevrimiçi Yayın Tarihi:** 26.12.2012

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doi:10.5152/akd.2013.057

**Bifid origin of the right coronary artery, coexisting with an anomalous right bronchial artery originating from the circumflex coronary artery** 🎬

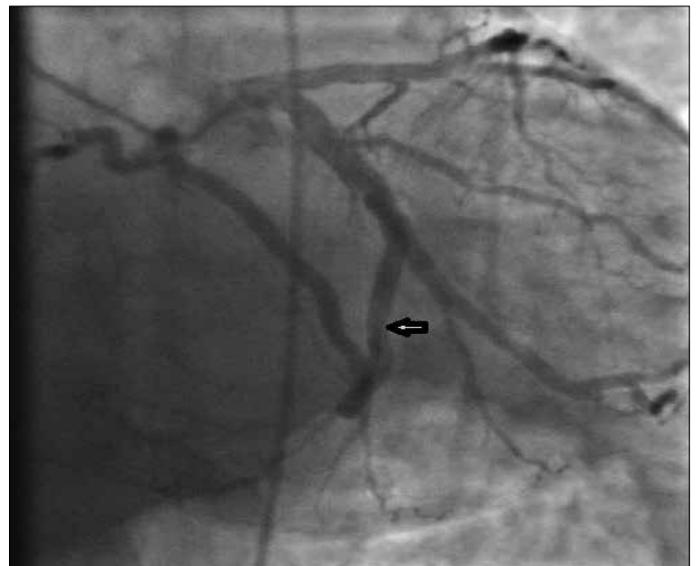
*Sirkumfleks arterden kaynaklanan sağ bronşiyal arter anomalisi ve iki ostiyumlu sağ koroner arter*

Anomalous origin of the coronary artery is a well-known phenomenon however anomalous bronchial arteries are rarely seen and may

originate from various vascular structures. We report a patient with atypical angina whom there was bifid origin of the right coronary artery, coexisting with an anomalous right bronchial artery originating from the circumflex coronary artery. A 45-year-old man who with history of dyslipidemia was admitted to our institution having atypical chest pain for two year. Her electrocardiography showed normal findings. Her examination was unremarkable except for systolic murmur in the mitral area upon auscultation. The results of her laboratory tests were all normal, except for elevated low-density lipoprotein and cholesterol levels. Transthoracic echocardiography showed that ejection fraction was 60% and mild mitral regurgitation. Selective coronary artery angiography was performed to rule out ischemic heart disease and demonstrated a large, tortuous vessel arising from the circumflex artery and bifid (Y) origin of the right coronary artery (Fig. 1-3, Video 1, 2. See cor-



**Figure 1.** A diagnostic right coronary angiography view of a bifid origin of the right coronary artery



**Figure 2.** Left coronary angiogram demonstrates an anomalous right bronchial artery originating from the circumflex artery