

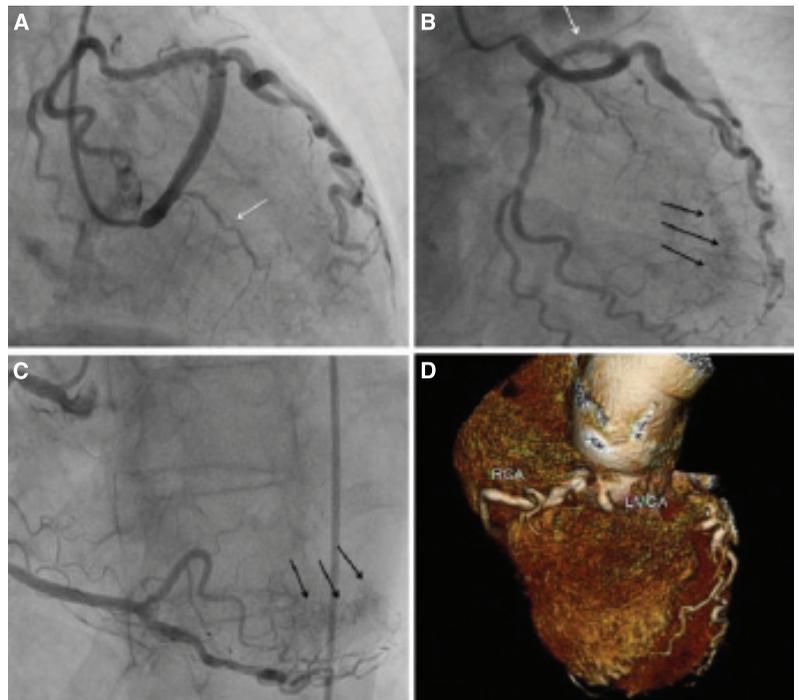
An unusual co-anomaly: multiple coronary-cameral fistulas and left main coronary artery arising from the right sinus of Valsalva

Nadir bir birliktelik: Sağ sinüs Valsalva orjinli sol ana koroner artere eşlik eden çoklu korono-kameral fistüller

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A 70-year-old female patient was referred to the Cardiology Department for preoperative evaluation before undergoing total hysterectomy. She had no chest pain, but had experienced exertional dyspnea over the past several months. Besides age, she had no additional risk factors for coronary artery disease. Electrocardiogram showed normal sinus rhythm and nonspecific T wave changes, with a heart rate of 81 beats per minute. The physical examination was unremarkable, and exercise stress test was non-diagnostic. Coronary angiography revealed anomalous left main coronary artery (LMCA) arising from the right sinus of Valsalva (Fig. A, Video 1*) and the presence of multiple coronary-cameral fistulas (CCF) between the left ventricle and septal perforating branches of the left anterior descending (LAD) and right coronary arteries (Fig. B, Video 2; Fig. C, Video 3). According to the eye-dot method (Fig. B) and given the septal perforator branch before the LMCA bifurcation (Fig. A), its course was considered as septal, which was confirmed by computed tomography coronary angiography (CTCA) (Fig. D). Because of the benign nature of the abnormal septal course of the LMCA and clinically insignificant CCF, the patient was treated conservatively with β -blockers. She did not experience any chest pain during the hysterectomy and had an uneventful postoperative course. CCF is an uncommon clinical entity, which is defined as an anomalous communication between any epicardial coronary artery and the cardiac chambers. The functional significance and treatment of these fistulas remain unclear. As in our case, CCF originating from both coronary arteries and terminating in cardiac chambers is one of the least common forms. The anomalous origin of LMCA arising from the right sinus of Valsalva

is quite rare, with an incidence of 0.1%. It has four possible courses: inter-arterial, retro-aortic, septal, and anterior. The clinical significance and management strategies in these arteries depend on the initial course of the anomalous vessel. In 1990, Serota et al. defined the 'Dot and Eye' method for identification of the initial course of anomalous coronary arteries in coronary angiography. In a septal course, the circumflex artery (Cx) will form an ellipse to the left of the aorta, similar to an 'eye', with the LMCA forming the inferior portion and the Cx forming the superior portion during 30° RAO injection. In conclusion, CTCA can visualize coronary anomalies accurately; however, a correct diagnosis can be made safely in selected cases by conventional angiography in the presence of clues.



Figures– (A) Presence of an unusual septal perforator branch arising from the LMCA. (B) Circumflex artery forming the superior portion and the LMCA forming the inferior portion of the 'eye' (white arrow). Black arrows show the coronary-cameral fistulas between the left anterior descending artery and left ventricle. (C) Black arrows show the coronary-cameral fistulas between the right coronary artery and left ventricle. (D) Computed tomography coronary angiography revealing abnormal origin of the LMCA arising from the right sinus of Valsalva and the septal course of the LMCA. *Supplementary video files associated with this presentation can be found in the online version of the journal.