

Connection between the right coronary artery and the coronary sinus vein resembling a ruptured sinus of Valsalva aneurysm

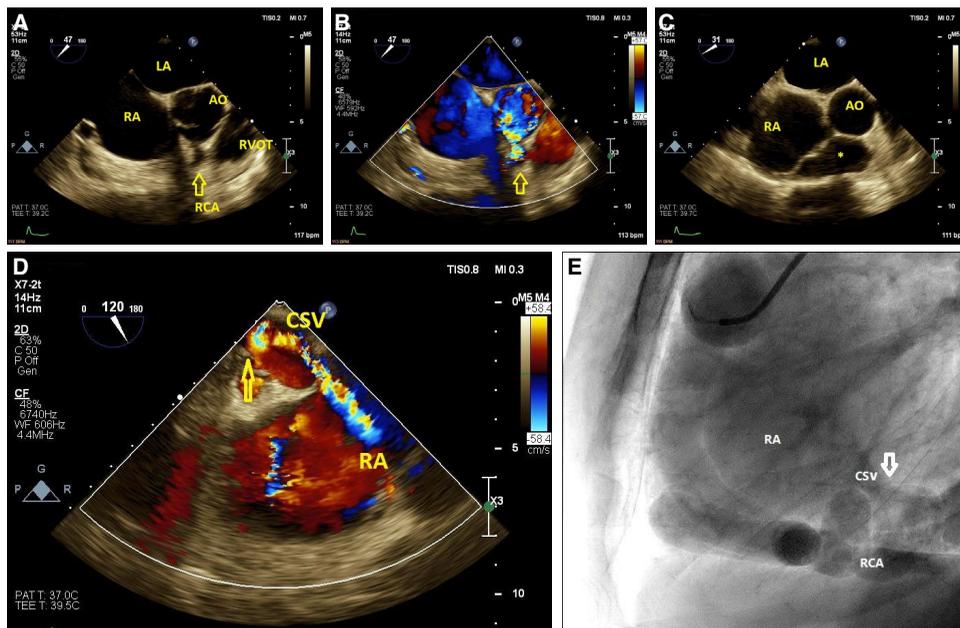
Rüptüre sinüs Valsalva anevrizmasını andıran sağ koroner arter ve koroner sinüs veni arasındaki bağlantı

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A 47-year-old woman was referred to the echocardiography ward for evaluation of dyspnea on exertion of several months' duration; she had been classified as New York Heart Association functional class II. The patient had been hypertensive for a year. Physical examinations revealed a hyperdynamic precordium with systolic and diastolic murmurs at the left sternal border. Transthoracic echocardiography showed aneurysmal dilation of the right coronary aortic sinus with a continuous turbulent flow within and significant diastolic flow reversal in the descending aorta with mild tricuspid regurgitation suggestive of

a ruptured right coronary sinus of Valsalva to the right outflow tract. The coronary sinus vein (CSV) was dilated with tortuosity and a continuous turbulent flow within. Additionally, there was a multi-chamber structure adjacent to the lateral wall of the right atrium with a continuous turbulent flow within. Transesophageal echocardiography demonstrated aneurysmal dilation of the right coronary artery (25×17 mm) with a tortuous course along the right atrial wall (Figure A-C), which reached the vicinity of the CSV and finally connected to its distal part. The proximal part of the CSV had a normal diameter (Figure D). Selective coronary angiography confirmed the connection of the right coronary artery to the distal part of the CSV (Figure E). The patient was referred for surgery. This case is a reminder that coronary artery fistula is a differential diagnosis of ruptured Valsalva sinus of the aorta.



Figures– (A, B) Dilated right coronary ostium (arrow) observed in the mid-esophageal short axis of the aortic valve view of transesophageal echocardiography with and without color Doppler mapping. **(C)** Aneurysmal dilation of the right coronary artery (*) in the mid-esophageal short axis of the ascending aorta seen on transesophageal echocardiography. **(D)** Connection of the right coronary artery to the distal part of the coronary sinus vein (arrow) as observed on transesophageal echocardiography. **(E)** Connection of the right coronary artery to the distal part of the coronary sinus vein (arrow) as seen on selective coronary angiography.

AO: Ascending aorta; CSV: Coronary sinus vein; LA: Left atrium; RA: Right atrium; RCA: Right coronary artery; RVOT: Right ventricular outflow tract.

*Supplementary video files associated with this presentation can be found in the online version of the journal.