

# Endocarditis at the Junction of Right Coronary Artery Fistula and Superior Vena Cava

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## CASE REPORT:

We present a case of endocarditis at which the site of infection was the junction of the superior vena cava (SVC) and a right coronary artery fistula (RCAF). To our knowledge, endocarditis at this site and the echocardiographic findings of this rare entity have not been previously described. Transesophageal echocardiography proved to be a useful tool to demonstrate the presence of this large vegetation as well as its spatial relationship of this RCAF and the SVC.

A previously healthy thirteen year old female presented to an outlying hospital with a two week history of fever. Blood culture was positive for *Staphylococcus aureus*. She was started on Clindamycin, and later switched to Vancomycin. Transthoracic echocardiogram was reported as normal. Because of repeat positive blood culture, she was transferred to our institution. Upon arrival to our institution, the patient's physical examination was normal. Chest x-ray and ECG were normal. There were no complaints of headache, and her cough had improved. She had occasional fever and chills, and had some flank pain with deep inspiration or cough. A routine complete echocardiogram was performed, and again was read as normal except for a dilated right coronary artery. Because of continuing concerns of endocarditis, a TEE study was performed the following day. The TEE showed a dilated (6mm), circuitous right coronary artery (RCA) coursing posteriorly, then superiorly and anteriorly entering the anterior aspect of the SVC/RA junction. In the bi-caval view, a large mass (14 mm) was seen attached to the orifice of the fistula protruding into the SVC. CFM showed a long jet of aliasing flow extending into the right atrial cavity protruding into the SVC.

The patient was taken to the cardiac cath lab two months after completion of an anti-biotic course and resolution of symptoms for selective coronary arteriography and embolization of the fistula. Attempts to engage the fistula for embolization at that time were unsuccessful. A repeat attempt at catheter closure was performed several months later at which time embolization was successful with multiple coils.

## CONCLUSIONS:

RCAF is a rare entity generally thought to occur in about 0.1-0.2 % of the population. This is the first CAF of its kind presenting with endocarditis and described by echocardiography. This vegetation and coronary fistula was not seen on transthoracic echocardiogram. The presence of vegetation at the SVC and RCAF junction in this patient is an example of why we recommend that TEE should always be performed when TTE is negative even when the Duke University criteria for endocarditis are not met, and there are no other reasons for positive blood cultures.