

Echocardiographic Diagnosis of Right Coronary Artery to Coronary Sinus Fistula

Clinical Case Portal

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Case Report

This view demonstrates the continuity between the cystic masses and the aorta at the level of right coronary sinus of the aortic valve. Markedly dilated coronary sinus is seen with increased turbulent flow through its opening into the right atrium.

Patient history prior to current observation :

This case illustrates the diagnostic ability of transoesophageal echocardiography in the diagnosis of right coronary artery to coronary sinus fistula.

A 37-year-old female presented to the outpatient department with 3 years history of atypical chest pain, palpitations and exertional dyspnoea. Her past history revealed gastro-oesophageal reflux disorder. The clinical examination was unremarkable.

Clinical findings on admission, evolution and outcome :

Transthoracic Echocardiography

Normal left and right ventricular size with good systolic function: Dilated right atrium and coronary sinus: Turbulent flow from coronary sinus to the right atrium. Clinical suspicion of atrial septal defect with deroofting of the coronary sinus.

Transoesophageal Echocardiography

Multiple cystic masses were seen at the tricuspid annulus, anterior to the right atrial free wall and inferiorly at the atrio-ventricular groove.

Continuation of these masses with the right coronary sinus of the aortic valve could be demonstrated.

Colour flow mapping demonstrated flow in different directions in these cystic cavities.

Pulse wave Doppler revealed low velocity biphasic flow that had characteristics of venous flow.

Increased flow on colour mapping could also be shown at the opening of the coronary sinus into the right atrium. (fig. 1), (fig. 2), (fig. 3), (fig. 6)

Coronary Angiography

Normal left system. The right coronary artery was ectatic, tortuous and opened into a huge sac of dilated coronary sinus that drained into the right atrium. (fig. 4), (fig. 5)

Conclusion

Due to atypical chest pain, a follow up myoview SPECT exercise test was performed with a modified Bruce protocol. The patient exercised for 8 minutes reaching 72% of target heart rate. The test was stopped due to fatigue with no chest pain. Only moderate lateral wall ischaemia could be seen. The patient has responded well to oral Aspirin and Diltiazem.

Video 1 :

[Right Coronary Artery to Coronary Sinus Fistula TOE 2D Transverse Axis](#)



Video 2 :

[Right Coronary Artery to Coronary Sinus Fistula TOE 2D Long Axis.](#)



Video 3 :

[Right Coronary Artery to Coronary Sinus Fistula TOE 2D Transgastric View](#)



Video 4 :

[Right Coronary Artery to Coronary Sinus Fistula_Coronary Angiography: LCA](#)



Video 5 :

[Right Coronary Artery to Coronary Sinus Fistula_Coronary Angiography: RCA - RAO View](#)



Video 6 :

[Right Coronary Artery to Coronary Sinus Fistula_TOE_Transverse Axis -1](#)

