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Constrictive Pericarditis After Repair of a Ruptured Sinus of Valsalva

Sarah Studyvin

Children's Mercy Hospital

Laura Kuzava

Children's Mercy Hospital

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BACKGROUND

Constrictive pericarditis is an uncommon complication of cardiac surgery. We report a patient who developed constrictive pericarditis after ruptured sinus of Valsalva (RSOV) repair.

CASE

A 23-year-old male presented with exertional dyspnea one year after RSOV repair. TTE showed a small, circumferential effusion with thickened pericardium, ventricular septal bounce (Fig 1), left atrial enlargement, diastolic hepatic flow reversal (Fig 2), and trivial mitral regurgitation without stenosis. He underwent cardiac catheterization, which revealed elevated filling pressures (RVEDP 16 mmHg, LVEDP 18 mmHg), RVEDP/RVSP ratio < 0.5, and a low cardiac index (1.65 L/min/m²). Cardiac MRI confirmed pericardial thickening (Fig 3) with paradoxical septal motion, dilated pulmonary veins (Fig 4) and retrograde flow in the SVC.

Constrictive Pericarditis After Repair of a Ruptured Sinus of Valsalva

Consider the diagnosis of **constrictive pericarditis** in patients with unexplained right heart failure and decreased cardiac function.

Evaluate for constrictive pericarditis with **echocardiography** and **cardiac MRI**.

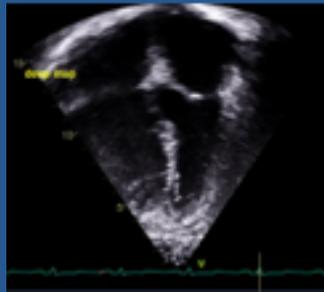


FIGURE 1

Thickened pericardium and septal bounce with deep inspiration on TTE.

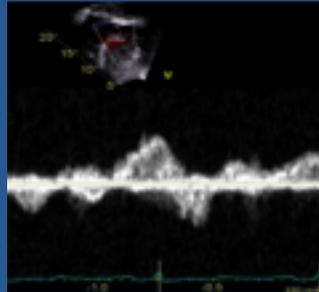


FIGURE 2

Diastolic hepatic flow reversal on TTE.

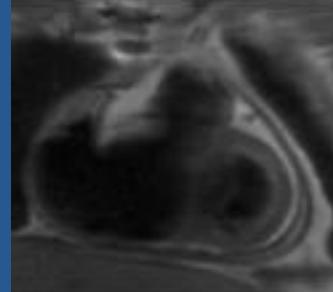


FIGURE 3

Pericardial thickening on cMRI.

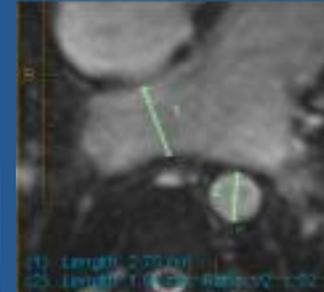


FIGURE 4

Dilated pulmonary veins on cMRI.

Sarah Studyvin, William Douglas, Sanket S. Shah
Children's Mercy Kansas City

DECISION-MAKING

Pericardiectomy of thickened and adherent pericardium was performed. The central venous pressure decreased from 23 to 7 mmHg and TEE showed normal systolic function with less septal bounce postoperatively. Pathology specimens of the pericardium exhibited fibrosis and mild chronic inflammation. He continued to do well at one-month follow-up.

DISCUSSION

Constrictive pericarditis is a rare complication of cardiac surgery. In patients presenting with right sided heart failure and deterioration of cardiac function not explained by other mechanisms, evaluation with TTE and cMRI should be considered; cardiac catheterization with or without fluid challenge can be performed to confirm the diagnosis.

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