Severe Calcific Chronic Constrictive Tuberculous Pericarditis

A 38-year-old man was admitted to our cardiology clinic after 2 months of weakness, fatigue, chest pain, ascites, and tachycardia. He had been diagnosed with tuberculosis 8 months before and had not complied with triple-antibiotic therapy. Chest radiography was specific for chronic tuberculous pericarditis and showed massive pericardial calcific deposits encircling the heart (Fig. 1). Two-dimensional, color-flow Doppler echocardiography revealed severe pericardial calcification, poor left ventricular ejection fraction, and fresh thrombus in dilated hepatic veins. We performed cardiac catheterization with coronary angiography and found mild-to-moderate mitral insufficiency, diffuse pericardial calcification, elevated left atrial pressure (15 mmHg), and a mean right ventricular end-diastolic pressure of 18 mmHg (Figs. 2 and 3).

Preoperatively, the patient was in New York Heart Association (NYHA) functional class III–IV. He underwent pericardial resection, with electrocauterization at <60 mV to avoid thermal injury to the right ventricle. Where possible, constrictive calcific layers of epicardium were removed (Fig. 4). Postoperatively, his central venous pressure decreased from 15 to 8 mmHg, and his mean right ventricular end-diastolic pressure decreased from 18 to 11 mmHg. During the 1st postoperative month, our patient’s functional capacity improved dramatically, and he was in NYHA functional class I–II one month after discharge from the hospital.

Comment

Tuberculosis is a leading cause of pericarditis in some nonindustrialized countries, and even in the United States it accounts for nearly 10% of chronic constrictive pericarditis cases. There is strong suggestive evidence that large calcific pericardial deposits indicate “burnt-out” pericardial tuberculosis. Detecting the pericardial calcification on radiography is important for definitive diagnosis. Fibrosis and calcification can be extensive in tuberculosis patients, and this is the primary reason for early operation. Today, pericardiectomy is generally a safe procedure with available techniques, although the early postoperative death risk is more than 2%. Survival rates vary from 55% to 90% on the basis of age, sex, and race.

Fig. 1 Preoperative chest radiograph shows massive pericardial calcification encircling the heart.
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References


Fig. 2 Cardiac catheterization shows diffuse pericardial calcification and mild-to-moderate mitral insufficiency.

Real-time motion images are available at texasheart.org/journal.

Fig. 3 Cardiac catheterization shows normal right coronary arteriography and diffuse pericardial calcification.

Fig. 4 Intraoperative photograph shows removal of constrictive calcific layers from the pericardium.