

An unusual complication of infective endocarditis: left ventricular outflow tract perforation

Nietypowe powikłanie infekcyjnego zapalenia wsierdza: perforacja drogi odpływu lewej komory

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A 24-year-old female was admitted to our hospital complaining of fever, chest pain, cough and dyspnoea. Physical examination revealed tachycardia with heart rate 115 bpm, dull and decreased respiratory sounds in the lower left lung field, systolodiastolic murmur at the aortic and mesocardiac area. Chest X-ray showed an increased cardiothoracic ratio and left-sided pleural effusion. The erythrocyte sedimentation rate was found to be 64 mm/h.

Echocardiography revealed moderate aortic insufficiency. Pathological flow was detected at left ventricular outflow tract (LVOT) by Doppler imaging. LV free wall was seen to be compressed partially by the haematoma surrounding the heart. Chest computed tomography (CT) showed the perforation at LVOT, partial compression of LV lateral wall, main pulmonary artery, superior vena cava, and nearly complete obstruction of left pulmonary veins (Figs. 1–3).

The patient underwent emergent cardiac surgery. A pseudoaneurysm sac was detected starting from the lateral side of the aorta extending through transverse sinus and including the left anterior descending coronary artery region. Aortotomy was performed.

The aortic valve was detected to be bicuspid. A perforation with a diameter of 10 × 15 mm was seen just below the aortic valve (Fig. 4). The perforation was repaired with a dacron graft, and aortic valve replacement was performed. The pathological examination revealed inflammation and vegetation at the sample taken from the perforation region, which demonstrated that the aetiology of perforation was mural infective endocarditis. Mural endocarditis is an inflammation and disruption of the nonvalvular endocardial surface of the cardiac chambers. Mural endocarditis may develop on LVOT secondary to chronic aortic regurgitation due to chronic endocardial trauma. Traumatized endocardium provides a nidus for the development of bacterial vegetation. It is well known that inflammation and vegetation may cause destructive lesions and perforation usually affecting valves, and result in acute valvular regurgitation, or may result in fistula formation. But myocardial perforation and pseudoaneurysm formation has rarely been reported. Excision of the pseudoaneurysm with LV reconstruction should be the treatment of choice in patients presenting with myocardial perforation and pseudoaneurysm formation.



Figure 1. CT demonstrating perforation in LVOT and pseudoaneurysm surrounding coronary artery

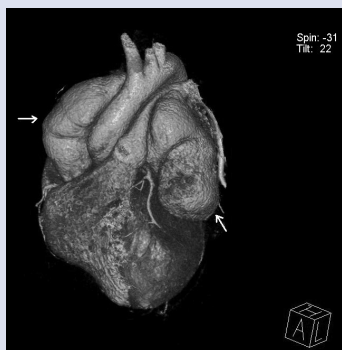


Figure 2. Pseudoaneurysm sac extending through the transverse sinus

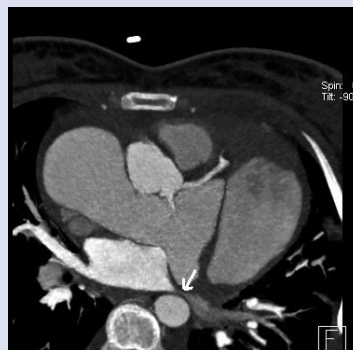


Figure 3. Pseudoaneurysm sac compressing left pulmonary veins (arrow)

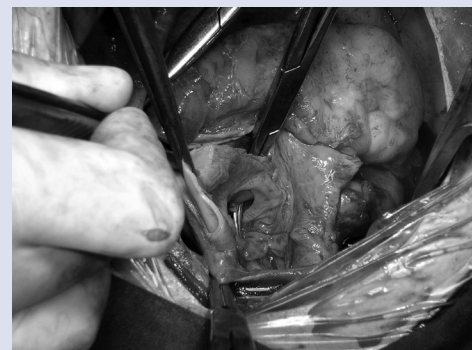


Figure 4. Surgical view of the perforation in LVOT

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