

AORTIC ROOT ABSCESS RUPTURED INTO THE RIGHT ATRIUM IN INFECTIVE ENDOCARDITIS OF BICUSPID AORTIC VALVE

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ABSTRACT:

Even in the modern era of antibiotic therapy and advanced diagnostic imaging, infective endocarditis continues to be a disease with a persistently high mortality and morbidity.

We report a serious complication of infective endocarditis of bicuspid aortic valve with aortic root abscess ruptured into the right atrium with fatal outcome, registered by transthoracic echocardiography.

This complication should be suspected in all patients with endocarditis associated with continuing sepsis or acute haemodynamic deterioration. Early accurate echocardiographic diagnosis and emergent surgical treatment are of great prognostic importance.

Key words: endocarditis complications, abscess, rupture

A 37-year-old woman presented at Cardiology Department with shortness of breath, weakness and high temperature. The complaints have begun for about 6 weeks after dental procedures. She had no history of cardiovascular diseases.

Clinical examination on admission revealed heart rate 90 beats per minute, moderate to severe diastolic murmur at the left upper parasternal border and moderate systolic murmur in the whole precordium. RR was 100/55 mmHg. Signs of pulmonary and jugular congestion were presented.

ECG showed sinus rhythm and newly appeared first degree AV-block and right bundle branch block were registered.

On chest X-ray pulmonary congestion was visualized.

Because of severe aortic regurgitation, detected echocardiographically, the patient was presented at the cardiac surgeons. Meanwhile, the embolic event in the region of a. femoralis superficialis has occurred. The patient status started worsening dramatically with pulmonary edema and systemic hypoperfusion.

No cavity dilation and systolic dysfunction was detected on transthoracic echocardiography and pleural effusion was seen. Aortic root with normal dimensions was seen from parasternal long axis view. Parasternal short axis view at the aortic root level revealed bicuspid valve with vegetations of the cusps with dimensions above 7 mm. Aortic root was distorted with diameter 39 mm/25 mm, and a defect into the wall at the right atrium site was seen (Fig. 1). Color Doppler flow through the large aorto-atrial fistula was visualized (Fig. 2). Severe aortic regurgitation was registered.

The patient was operated on but died 3 hours after the emergency surgery. The pathologic findings confirmed bicuspid aortic valve with vegetations and aortic root abscess with rupture into the right atrium.

Streptococcus sanguis, penicillin sensitive, from blood cultures was isolated.

Even in the modern era of antibiotic therapy and advanced diagnostic imaging, infective endocarditis continues to be a disease with a persistently high mortality and morbidity. In our case the late patient presentation and diagnosis delayed starting of antimicrobial therapy. Aortic root abscess is not rare - arising in 10–40% of patients with native valve endocarditis (1,2). However, aorto-cavity fistulas which occurred with a prevalence of 1.8% in patients with native valves endocarditis are extremely serious complication with high in-hospital mortality despite aggressive management with surgical intervention in the majority of patients (3). These findings emphasize the importance of early echocardiographic, and especially transesophageal detection (1,4) of peri-valvular abscess formation and aorto-cavitary fistula. These complications should be suspected in all patients with endocarditis associated with continuing unexplained sepsis or acute haemodynamic deterioration. The need to consider early surgery in high-risk patients should be further emphasized. In addition, the cardiologists have to highlight the need for appropriate antibiotic prophylaxis in those at high clinical risk.

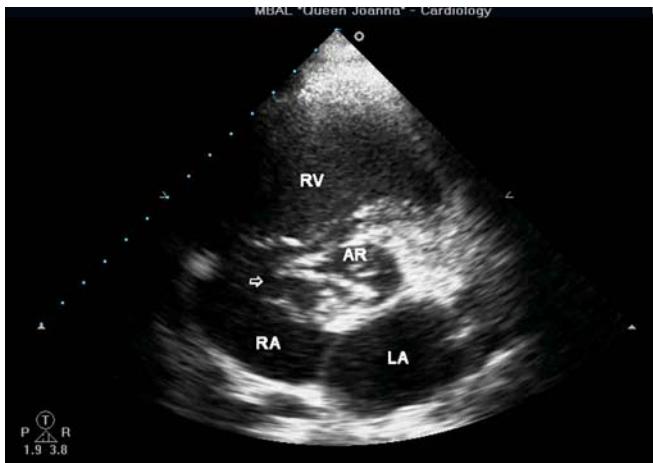


Fig. 1. Aortic root on parasternal short axis view with a distortion and rupture of sinus Valsalva into right atrium (arrow). RV – right ventricle, RA – right atrium, LA – left atrium, AR – aortic root.

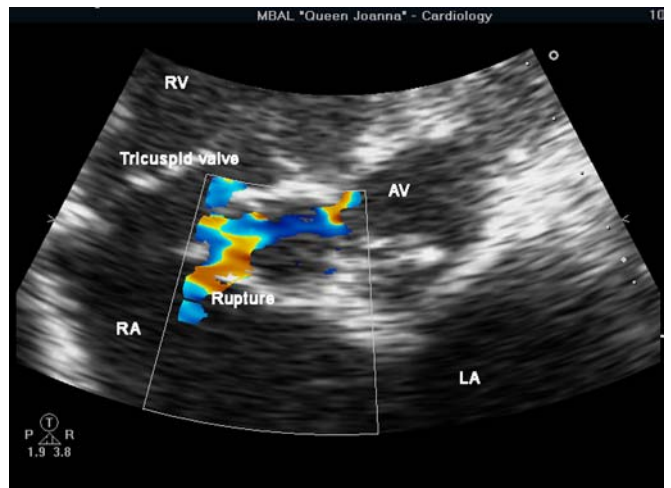


Fig. 2. Apical 5-chamber view with color Doppler flow through the aorto-atrial fistula. The gain of color Doppler was reduced to register the exact site of aort-atrial communication. RV – right ventricle, RA – right atrium, LA – left atrium, AV – aortic valve.

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