

Images in Cardiovascular Disease



Pulmonary Infectious Endarteritis Associated With Patent Ductus Arteriosus

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Conflict of Interest

The authors have no financial conflicts of
interest.

A 52-year-old man presented with fever of unknown origin for 3 months. The fever persisted even after taking antibiotics. One month before he developed the fever, he underwent acupuncture and phlebotomy several times. The patient had a cardiac symptom of shortness of breath during exercise, with a continuous murmur at the pulmonic position on physical examination. Transthoracic echocardiography (TTE) revealed a dilated pulmonary artery (PA) and a left to right shunt between the descending thoracic aorta and PA (peak velocity 4.5 m/s, **Figure 1A and B**), suggesting the presence of a patent ductus arteriosus (PDA). Chest computed tomography (CT) revealed multiple consolidations in both lungs, suspicious of embolic pneumonia (**Figure 1C**). *Streptococcus sanguinis* was isolated from 2 sets of blood cultures. The patient underwent transesophageal echocardiography (TEE), which revealed hypermobile linear materials in the PA (**Figure 1D-F**). On heart CT, a PDA at the end of the aorta (8.5 mm in size), calcification of the ostium, and abutting aorta were detected (**Figure 1G**). On 2-dimensional (2D) and 3D CT, images clearly showed an ill-defined nodular lesion (0.6 cm) attached to the medial side of the main PA (**Figure 1H and I**). The patient was diagnosed with a PDA accompanied by infectious endarteritis and septic embolic pneumonia. A combination of gentamicin (3 mg/kg daily) and intravenous ceftriaxone (2 g daily) was initiated. Despite 2 weeks of antibiotics, the fever recurred, and follow-up TEE showed remaining vegetation in the main PA. Therefore, surgical removal of the vegetation and PDA obliteration were performed. Post-operative TTE revealed no residual PDA flow, and the patient remained afebrile with a negative blood culture. He was discharged and followed up at an outpatient clinic without any subsequent evidence of infection.

This case has strengths of clear 2D and 3D CT images of PDA with vegetation, positive result of blood culture, and operative findings of vegetations.

*Written informed consent was obtained from the patient.

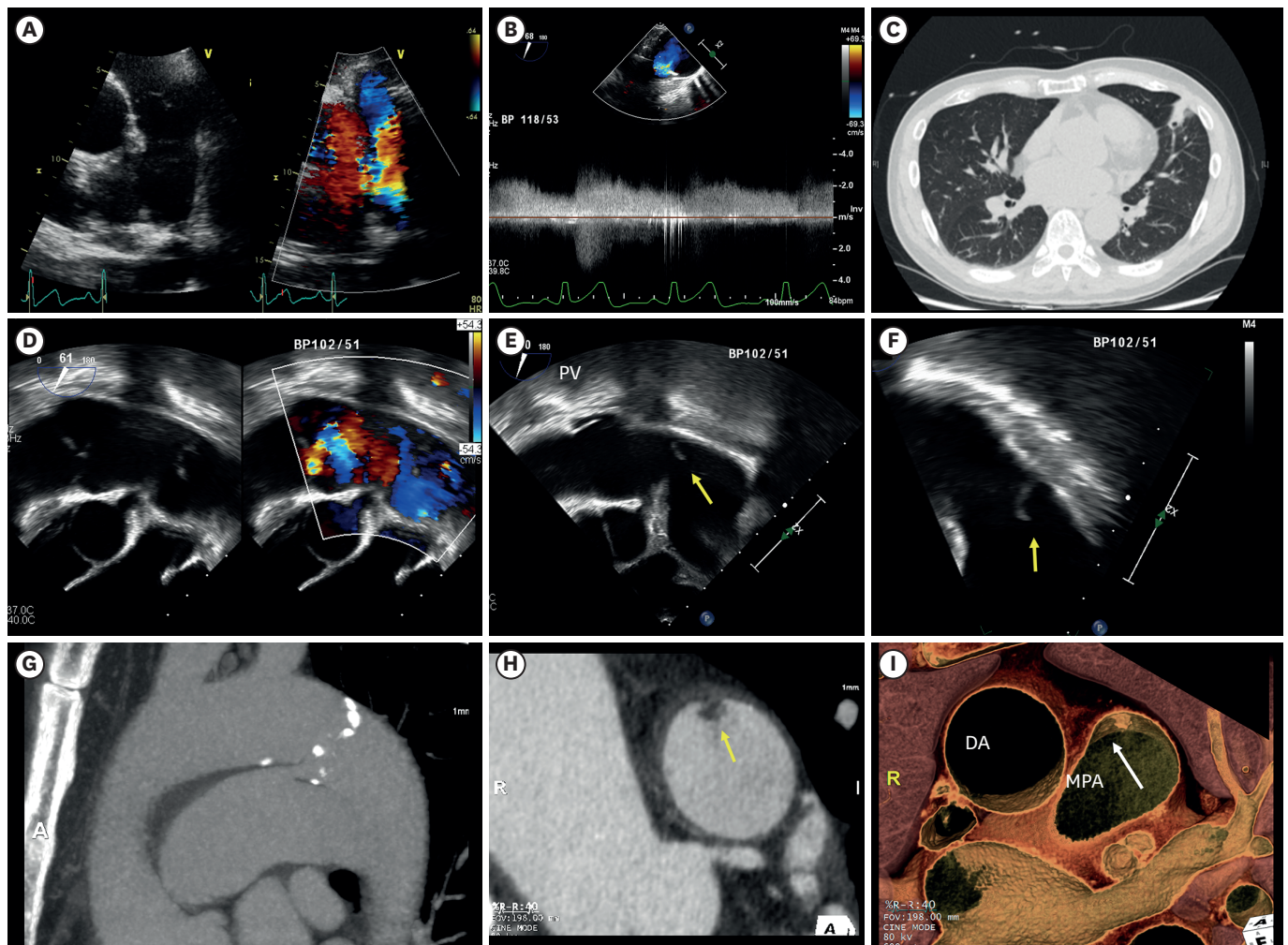


Figure 1. Multimodal imaging of infectious endarteritis associated with patent ductus arteriosus. (A) TTE image in the high left parasternal short-axis view showing a dilated pulmonary trunk and colour Doppler interrogation of the PDA. (B) Continuous-wave Doppler interrogation of the PDA demonstrating continuous flow from the aorta to the PA with systolic peak velocity of 4.47 m/s. (C) Chest CT demonstrated multiple consolidations with and without cavitation in both lungs, suggesting septic embolic pneumonia. (D-F) TTE of the right showed the vegetation located in line with the direction of PDA blood flow. (G) Heart CT showed a PDA (arrow) of type C (tubular) ductus that connects the proximal descending aorta to the PA with calcification (aorta side end: 8.2 mm, PA side end: 6.1 mm). (H and I) On 2D and 3D heart CT, a 0.6-cm ill-defined mobile nodular lesion was attached to the medial side of the main PA. TTE: transthoracic echocardiography, PDA: patent ductus arteriosus, PA: pulmonary artery, CT: computed tomography, PV: pulmonic valve, DA: descending aorta, MPA: main pulmonary artery.

Author Contributions

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