Double-chambered right ventricle and ventriculo-atrial shunt presenting as acute renal failure due to infective endocarditis

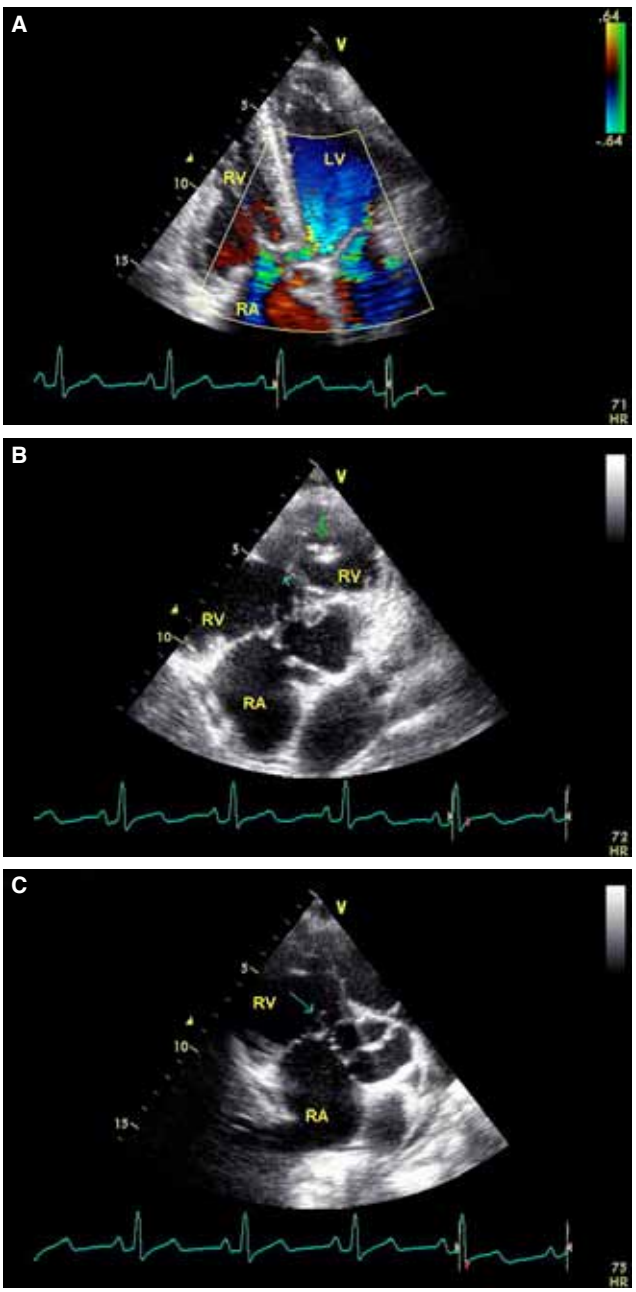
İnfektif endokardite bağlı akut böbrek yetersizliği ile başvuran çift-çemberli sağ ventrikül ve ventrikülo-atriyal şant

Özgür Ulaş Özcan
Elif Ezgi Üstün
Sibel Turhan
Ercan Tutar#
Çetin Erol

Department of Cardiology, Ankara University Faculty of Medicine, Ankara;
#Department of Pediatric Cardiology, Ankara University Faculty of Medicine, Ankara

A 32-year-old male was admitted to a nephrology clinic with acute renal failure. He complained of fatigue, low-grade fever, weight loss, right upper quadrant pain and ankle edema. He had no history of heart or kidney disease. Physical examination revealed a 37.9 °C fever, a systolic ejection murmur and systolic thrill at the left parasternal border of the heart, and an enlarged, tender liver below the rib cage. Transthoracic echocardiography (Vivid 7, General Electric, Horten, Norway) revealed a shunt from the left ventricle to the right atrium (Gerbode-type defect) (Figure A), Double-Chambered right ventricle (DCRV) and multiple mobile vegetation on the ventricular side of pulmonary valve (Figure B) and atrial side of the tricuspid pouch (Figure C). Alpha hemolytic streptococcus was isolated from blood culture. The patient was diagnosed as infective endocarditis (IE). Penicillin G was initiated due to an antibiotic susceptibility test. The patient had had no previous intervention which may predispose to the development of IE. He recovered from acute renal failure and surgical correction was planned for after antibiotic therapy. Double-Chambered right ventricle (DCRV) is a congenital heart anomaly characterized by the presence of a tissue dividing the right ventricle into proximal high pressure and distal low-pressure chambers. The tissue is commonly composed of abnormal muscle bands and, occasionally, hypertrophied endogenous trabecular tissue or a moderator band. Infundibular defects of the right ventricle most commonly associate with membranous-type ventricular septal defects. These defects are mostly diagnosed and repaired during infancy or childhood. Adult patients are usually misdiagnosed. Although DCRV and Gerbode-type defect are both risk factors for the development of IE, presentation of these defects with IE is extremely rare. Moreover, the etiology of the Gerbode-type defect may also be IE in this case.

When predisposed by undiagnosed complex congenital cardiac defect, IE should be considered in the differential diagnosis of unexpected acute kidney failure.



Figures– (A) Apical 4 chamber transthoracic view demonstrates Gerbode-type ventricular septal defect. See movie clip 1*. **(B)** Double-Chambered right ventricle (small arrow) and multiple mobile vegetations on the ventricular side of the pulmonary valve (large arrow). See movie clip 2*. **(C)** Parasternal short axis view shows multiple mobile vegetation attached to the tricuspid pouch (arrow). See movie clip 3*. **Supplementary video files associated with this presentation can be found in the online version of the journal.*