Journal of the American College of Cardiology
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Published by Elsevier Inc.

Vol. 58, No. 5, 2011
ISSN 0735-1097/$36.00
doi:10.1016/j.jacc.2010.11.077

IMAGES IN CARDIOLOGY

Mixed Atrial Septal Defect

Coexisting Ostium Secundum and Sinus Venosus Atrial Septal Defect

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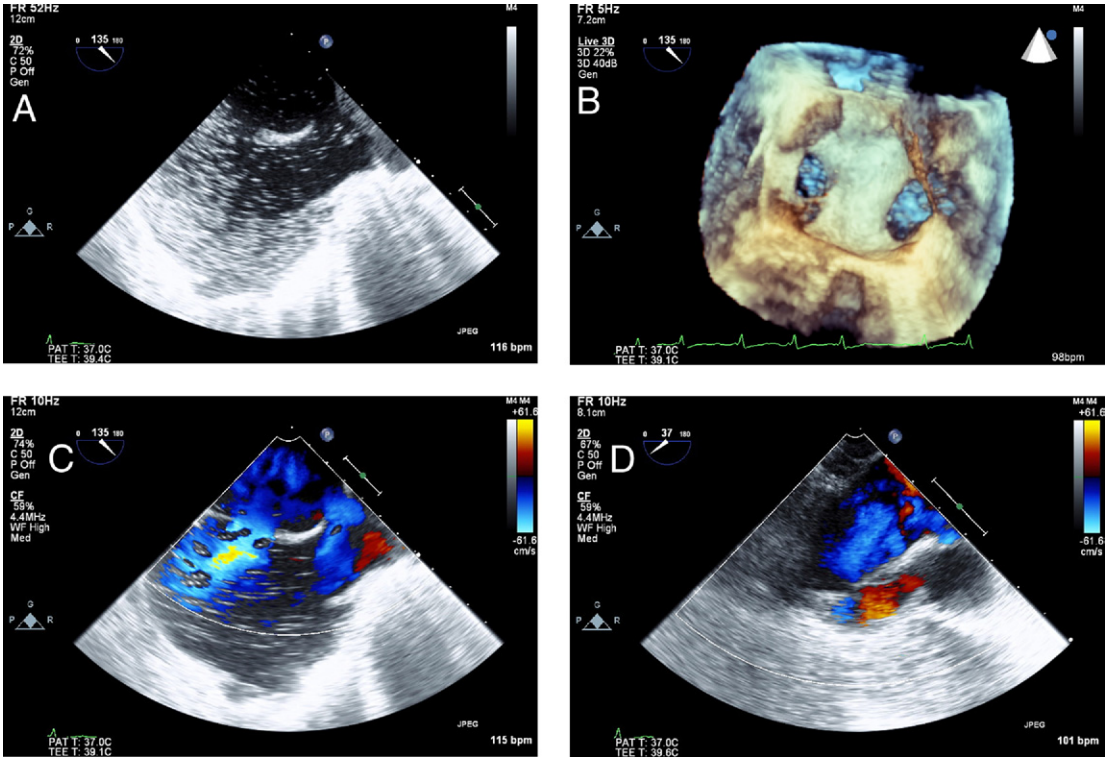

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Manuscript received November 15, 2010; accepted November 19, 2010.

A 62-year-old man presented with symptoms and signs of right-sided heart failure. Echocardiography revealed severe right-heart dilation and moderate pulmonary artery hypertension (pulmonary artery systolic pressure 55 mm Hg). Transesophageal echocardiography demonstrated both a sinus venosus atrial septal defect and a secundum atrial septal defect (**A, B**, Online Videos 1 and 2), with a predominant left-to-right shunt and a brief right-to-left shunt (**C**, Online Videos 3 and 4). Also, the right superior pulmonary vein was found to be anomalously draining into the superior vena cava (broken ring sign) (**D,** Online Video 5). The patient underwent successful surgical repair of the defects and also an atrial fibrillation ablation procedure.

Mixed defects account for only 7% of all atrial septal defects. The normal interatrial septum can be anatomically divided into 5 septal zones. Any defect involving 2 or more of the atrial septal zones is termed a mixed defect.