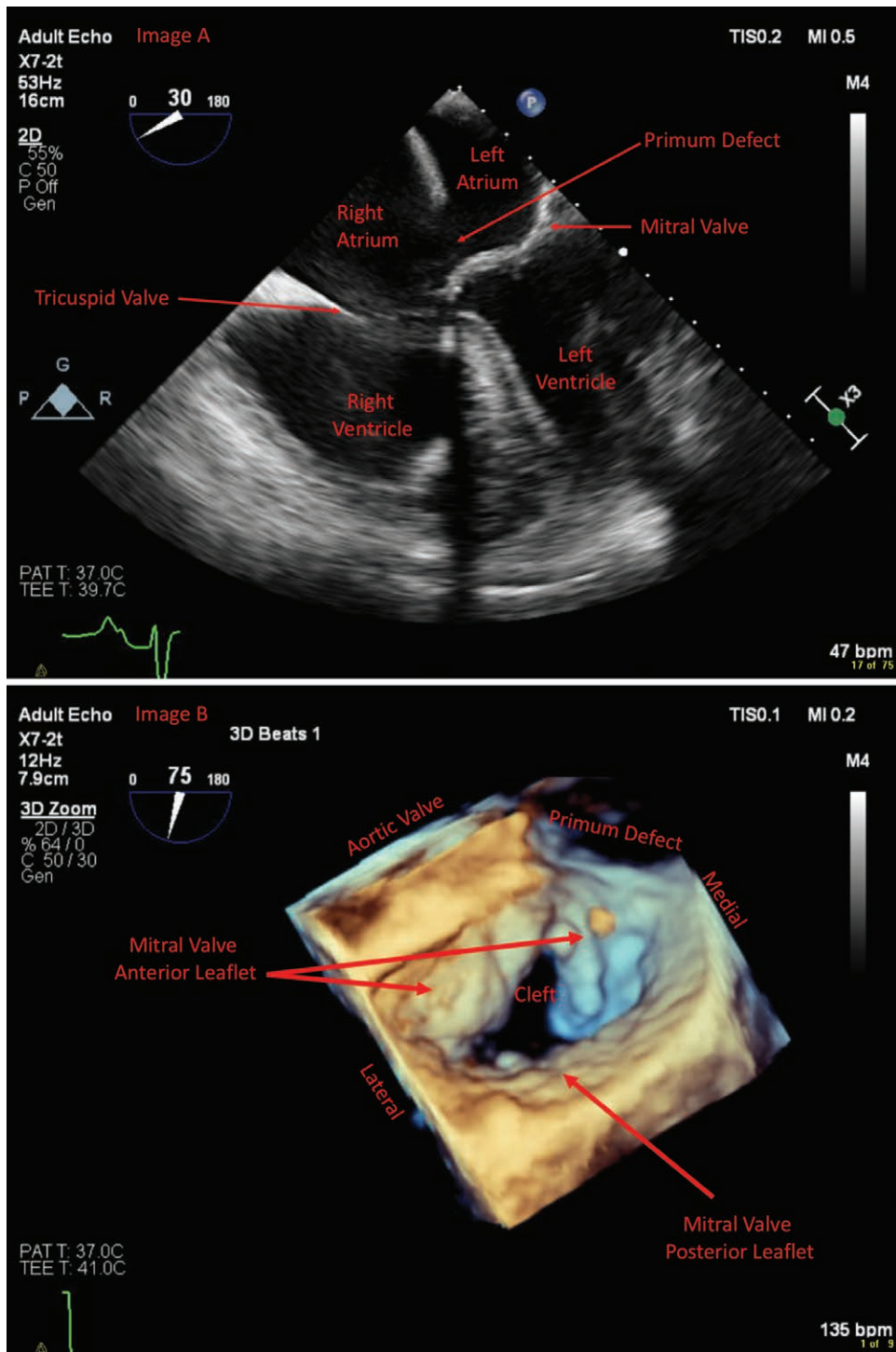


Partial Atrioventricular Canal Defect

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Partial atrioventricular canal defect is a congenital heart malformation consisting of both an ostium primum atrial septal defect and a cleft dividing the anterior mitral valve leaflet.¹ The primum atrial septal defect represents 15 to 20% of atrial septal defects and is caused by an endocardial cushion defect. It is typically diagnosed using echocardiography. The transesophageal echocardiographic midesophageal four-chamber view (image *A*) shows the defect between the right and left atria near the tricuspid and mitral valves. Significant right atrial and ventricular enlargement is observed due to volume overload from left-to-right shunting. A newly diagnosed primum atrial septal defect warrants mitral valve evaluation for the commonly associated anterior mitral valve leaflet cleft.¹ The cleft is best appreciated using three-dimensional echocardiography from an *en face* view (image *B*).

Preoperatively, patients should be assessed for congestive heart failure from volume overload, which may require diuresis, and syndromes such as trisomy 21.^{2,3} Antiarrhythmic and/or rate-control medications may be needed for atrial arrhythmias from long-term atrial dilation. Echocardiograms should be reviewed for mitral regurgitation from the cleft. Intravenous lines should be meticulously de-aired to prevent paradoxical emboli if the shunt changes to right-to-left.³ Less commonly, patients with large defects may develop pulmonary hypertension, which could cause a right-to-left shunt with resulting hypoxia. In those cases, ventilator settings should be optimized to

avoid hypercarbia, acidosis should be corrected, and warming equipment should be used to prevent hypothermia. Medications such as narcotics can be administered to blunt sympathetic responses to stimuli such as intubation, which helps to avoid increasing pulmonary pressures and worsening mitral regurgitation.²

Competing Interests

The authors declare no competing interests.

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