

A MINIMALLY INVASIVE APPROACH TO AORTIC STENOSIS IN DEXTROCARDIA WITH SITUS INVERSUS

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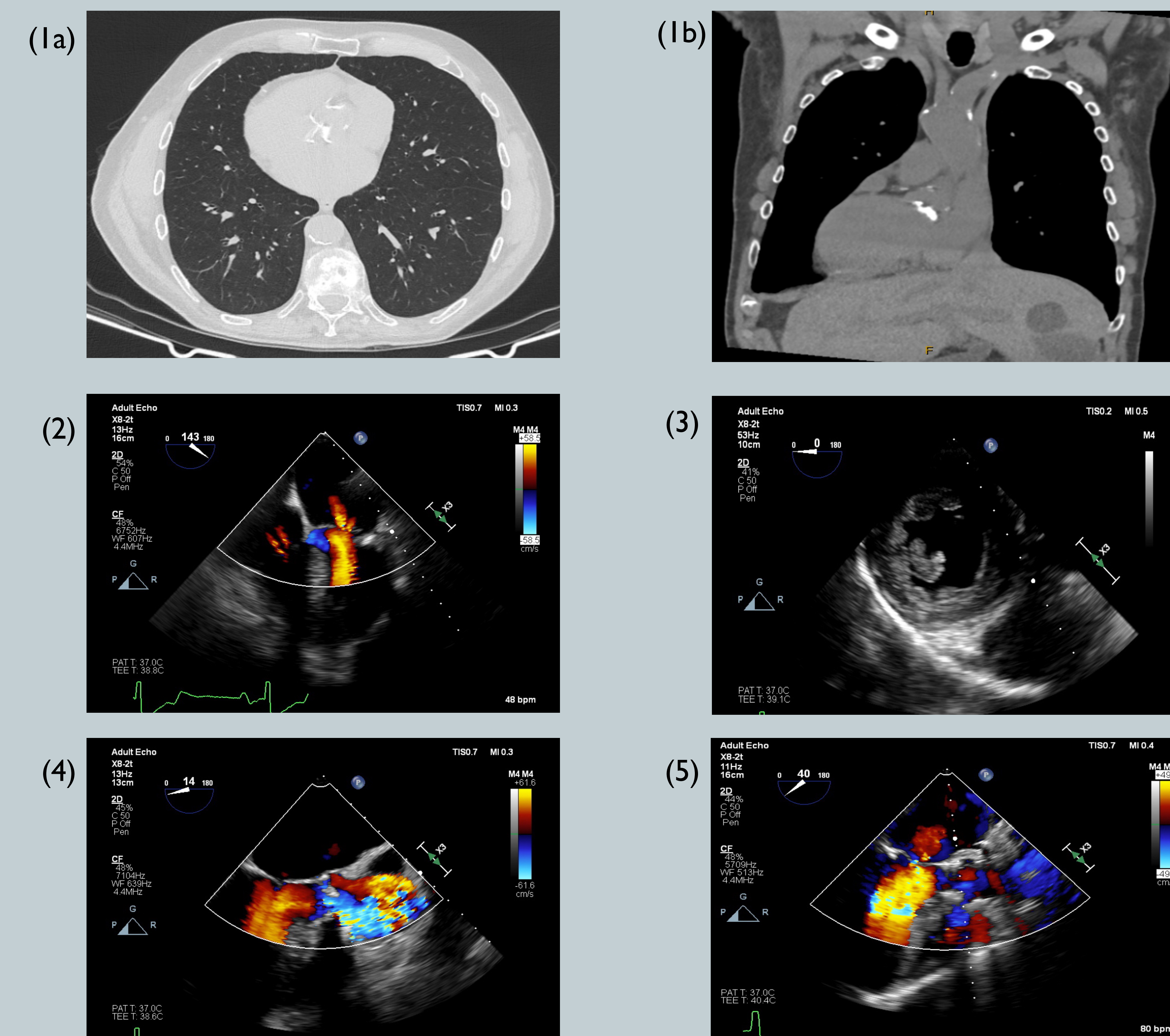
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Objective: Dextrocardia with situs inversus is a rare congenital anomaly requiring meticulous planning prior to cardiac surgery or intervention. The operative approach to aortic valve replacement (AVR) in dextrocardia has been previously described. The role of minimally invasive cardiac surgical techniques is evolving, with limited literature available pertaining to this rare clinical context.

Methods: We present a case of severe symptomatic aortic stenosis in a 78 year old male with dextrocardia in the context of situs inversus. Transcatheter aortic valve replacement was not a suitable option due to the large aortic annulus size and available valve prostheses at our institution. After careful consideration, a decision was made to proceed with a surgical AVR via a minimally invasive approach.

Results: The surgeon was positioned to the right side of the patient. A median upper hemisternotomy was performed and cardiopulmonary bypass initiated via right femoral arterial and venous cannulation. Following placement of a vent via the left atrial appendage (LAA), an aortotomy was performed. The heavily calcified trileaflet valve was excised and the annulus debrided. A Perceval sutureless aortic valve (size XL) was implanted. The aortotomy was closed and the LAA excised. Post-bypass intraoperative transoesophageal echocardiogram revealed a well seated prosthetic valve without paravalvular leak. There were no major complications postoperatively.

Conclusion: A minimally invasive approach to the surgical AVR is a safe and feasible option for the appropriately selected patient with dextrocardia.



1. (a) & (b) Computed tomography imaging performed preoperatively demonstrating dextrocardia with situs inversus
2. Mid-oesophageal four chamber view at multiplane angle 143°
3. Transgastric left ventricle (LV) short axis view at multiplane angle 0° with the LV on the opposite side
4. Mid-oesophageal aortic valve long-axis view demonstrating turbulent flow in the ascending aorta (pre-bypass)
5. Mid-oesophageal aortic valve long-axis view demonstrating flow across the Perceval valve (post-bypass)