



A case of left sided valve defects in a patient with repaired partial atrioventricular canal

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The patient is a 57-year-old female with Down syndrome with a history of a partial atrioventricular (AV) canal defect repair at the age of 10. She presented to the hospital complaining of shortness of breath that has been gradually worsening for the past 3 months. She was found to have severe left-sided valve regurgitation on cardiac echocardiogram (Fig. 1a, b). Multiphase cardiac computerized tomography with post processing reconstruction with Aquarius Workstation (TeraRecon Inc, San Mateo, CA) revealed two defects

on the left sided valve; a cleft on the anterior leaflet and a defect at the base of the same leaflet (Fig. 1c, d). Defects seen with 3D transesophageal echocardiography (TEE) and 3D CT reconstruction coincided exactly with the defects visualized during surgery (Fig. 1e, video 1). Mini surgical left sided valve repair was performed with pericardial patch and suture placement (Fig. 1f). No residual left sided regurgitation was seen on post procedure transesophageal echocardiogram. Patient was discharged 4 days later.

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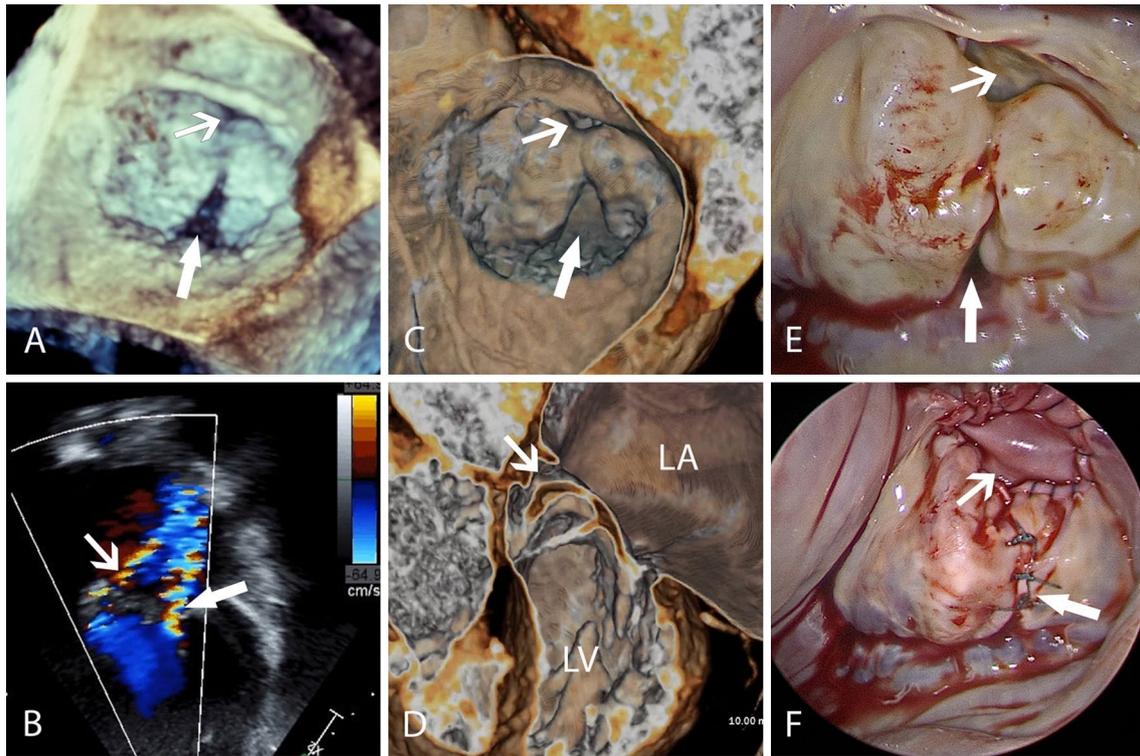


Fig. 1 **a, b**—Cardiac Echocardiogram demonstrates pathological structures causing severe valvular regurgitation. **a**—3D TEE: small white arrow is pointing at the dehiscence at the base of surgically reconstructed left sided valve, large white arrow is pointing at the cleft of the anterior leaflet. **b**—color Doppler signal indicates the location and direction of two regurgitant jets from the cleft (large arrow) and from the basal dehiscence. **c, d**—3D volume rendered cardiac CT angiography reconstruction. **c**—“surgical” view from the left atrium side, small and large arrows are pointing at the basal dehiscence and cleft respectively. **d**—sagittal view of cardiac CT

angiography reconstruction. *LA* left atrium, *LV* left ventricle, small white arrow showing the basal defect of the anterior leaflet of the left sided valve. **e, f** “surgical” view from the left atrium side. **e** Small arrow pointing at the dehiscence at the base of the left sided valve and large arrow pointing at the cleft of the anterior leaflet of the left sided valve **f** small arrow is pointing at surgically placed patch at the site of left sided valve dehiscence and large arrow is pointing at surgically placed sutures correcting cleft of the anterior leaflet of the left sided valve

Compliance with ethical standards

Conflict of interest All authors declare that they have no conflict of interest.

Ethical approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed consent Informed consent was obtained from all individual participants included in the study.

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