Aorto-left Ventricular Tunnel

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Six years male child was admitted in pediatrics department of our institute. His parents noticed prominent pre-cordial pulsations for few months. His BP was 120/60 mm Hg, pulse 76/min. Apex beat was in 5th intercostal space, in mid clavicular line. His heart sounds were normal. He had early diastolic murmur in left parasternal area, occupying about 50% of diastole. They made clinical diagnosis of aortic regurgitation. His echocardiac examination was done. His aortic valve was found to be normal. There was evidence of aorto left ventricular (aorto LV) tunnel (Figure 1), with moderate regurgitation (Figure 2). Left ventricle was mildly enlarged and showed good contraction. Ejection fraction was 65%. The diagnosis was confirmed on cardiac catheterization. He was advised device closure of the defect but was lost to follow up.

The term “aortico-left ventricular tunnel” was used subsequent to Levy’s publication in 1963, and “aorto-left ventricular tunnel” was introduced about ten years later by Ross and colleagues. An aorto-ventricular tunnel is an extracardiac channel which connects the ascending aorta above the sinutubular junction to the cavity of the left or right ventricle. The usual presentation of the disease is during infancy or early childhood with heart failure symptoms due to chronic non-valvular aortic regurgitation and diastolic steal that starts right from the fetal life. Although a small number of patients are symptom-free and have survived to adulthood; most patients’ natural history of this lesion is progressive deterioration in heart function and death in the first year of life. Spontaneous closure in only one case with a slit-like tunnel is reported, but patients should be treated even if they have not any symptom. The tunnel is closed by surgery or with a device in appropriate patients. In these patients, ALVT can be closed using a proper device by cardiac catheterization.

References