Subvalvular aortic stenosis (subaortic stenosis): a case series

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Introduction: Subvalvular aortic stenosis, which may have a dynamic component, may be due to a fibrous membrane, muscular obstruction, or a combination of the 2[1,2]. About 50% of patients with a subaortic membrane also have leakage of the aortic valve. Left ventricular outflow tract (LVOT) obstructive lesions account for approximately 6 percent of cases of congenital heart disease in children; the incidence was estimated to be 6 in 10,000 live births[3,4]. Subvalvar aortic stenosis (AS) is the second most common form of AS. Among children with congenital AS, subvalvar AS accounts for 10 to 14 percent of cases[4]. Subvalvar AS is more common in males, who account for 67 to 75 percent of cases[4]. Patients with severe or untreated subaortic stenosis may be at risk for sudden cardiac death. An echocardiogram will show the level and severity of the obstruction. It will also show if the left ventricle is thickened or enlarged. The progression is often very slow. This is especially true in people whose obstructions are not detected until they are adults. Surgery may be necessary to stop the progression of subaortic stenosis.

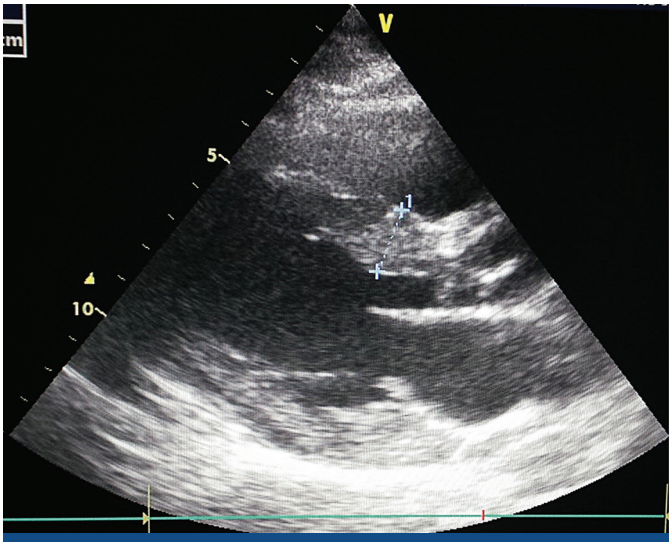

FIGURE 1. The concentric left ventricular hypertrophy; IVSd: 1.7cm.

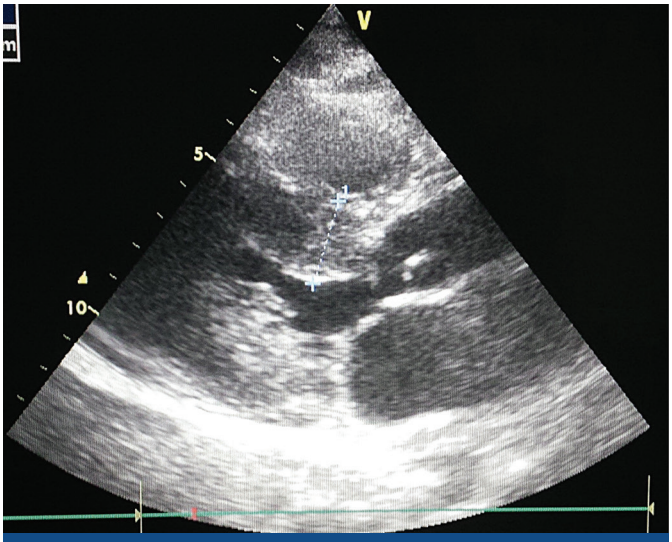

FIGURE 2. The concentric left ventricular hypertrophy; IVSd: 2.3cm.

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Case 1: 25-year-old female patient was admitted on our department, resuscitated and afterward intubated due to ventricular fibrillation. Her condition was additionally complicated by allergy reaction and signs of acute respiratory distress syndrome. In the age of 6 verified CHA. TTE show hypertrophic obstructive cardiomyopathy (HOCM) with PGmean 76mmHg and PGmax 142mmHg in LVOT. Two months later she underwent surgical operation of septal myectomy. 10 years later she is healthy and gave two births.

Case 2. 36-years-old female patient, growth with developmental difficulties, adipose with amaurose. Within the preoperative preparation for cholecystectomy operation was diagnosed for HOCM (**Figure 1**, **Figure 2**), subvalvular subaortic membrane (**Figure 3**), with high gradients of subaortic stenosis, PG

mean 54mmHg in the LVOT and mild aortic valve regurgitation (**Figures 4-6**). After cholecystectomy operation, she was scheduled for surgical correction of HOCM.

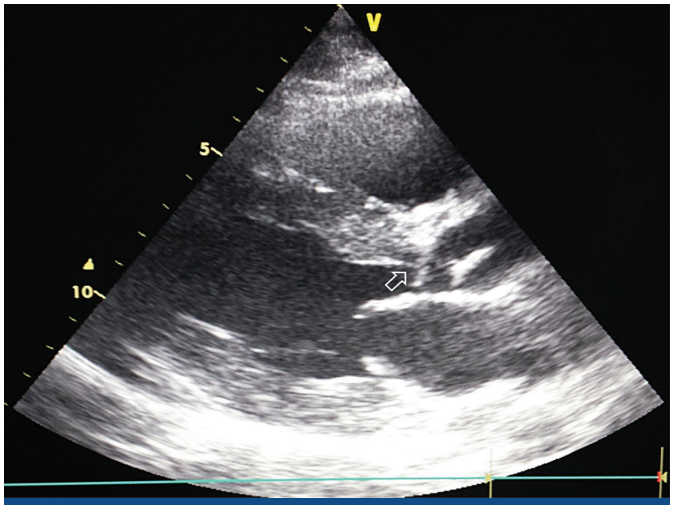

FIGURE 3. The presence of a subaortic membrane (small white arrow).

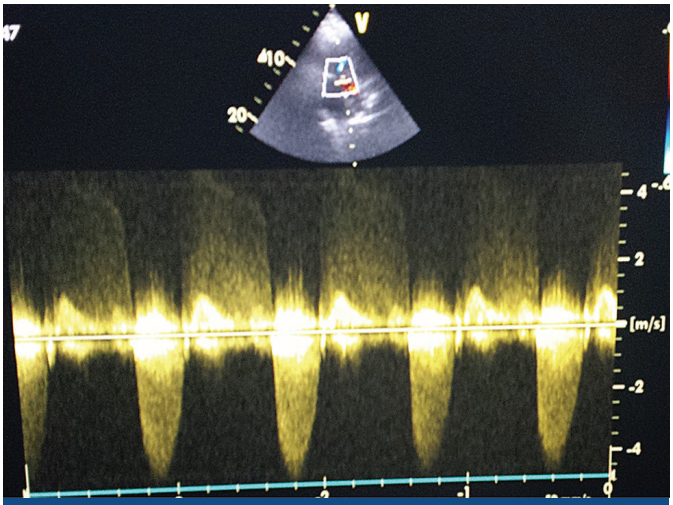

FIGURE 4. A subaortic membrane with severe stenosis gradient, moderate aortic regurgitation.

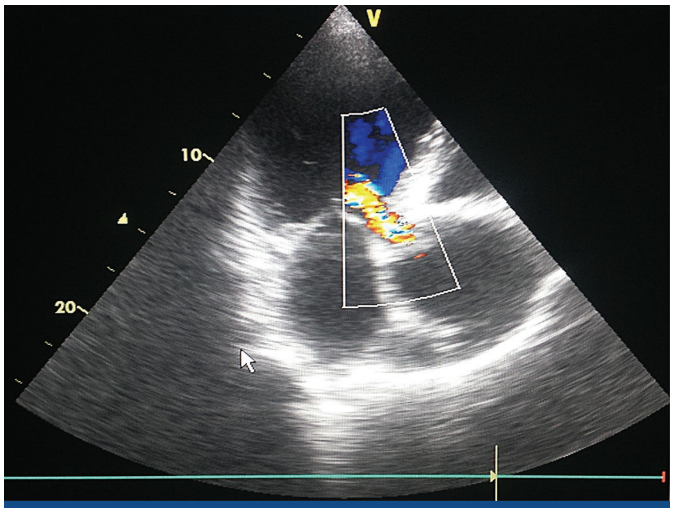

FIGURE 5. The presence of aortic regurgitation.

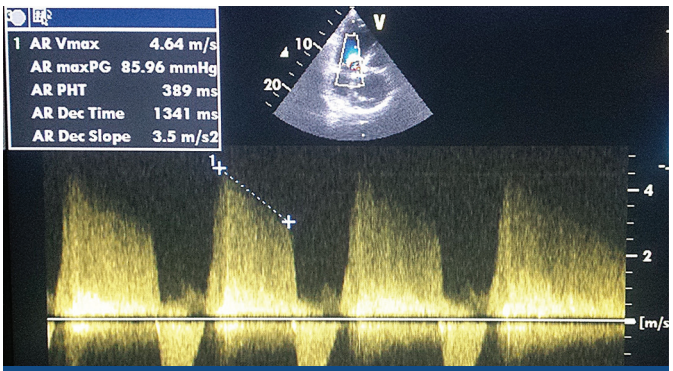

FIGURE 6. Quantification of aortic regurgitation using continuous wave Doppler.

Conclusion: Although the development of left ventricular hypertrophy or aortic regurgitation is a clear indication for operation, the timing of intervention in the otherwise asymptomatic patient remains a point of controversy.

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