Subaortic stenosis surgery in children: our experience with simple versus complex forms

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**INTRODUCTION:** Subaortic stenosis (Sub-a-S) in children is the second most frequent cause of left ventricle outflow tract obstruction. It is usually progressive and clinical symptoms are mild. There is no consensus about the best moment to operate these patients considering the subaortic gradient and aortic insufficiency progression. We present our experience during the period 2007-2015.

**MATERIAL & METHODS:** Retrospective study of 48 surgeries in 44 children aged ≤ 15 years. Main indication of surgery was Sub-a-S (isolated membrane or fibromuscular tunnel). Depending if they had previous cardiac/great vessels surgery or not, two groups were defined respectively named complex (n=25) and simple (n=23).

**RESULTS:**
Complex group patients have worse Sub-a-S with higher gradients, more associated lesions (BAV 32%, CoA 64%), and 80% tunnel predominance (70% membrane in simple group). Although most of them are asymptomatic, surgery is needed at a younger age compared with simple group.

Operations were performed under extracorporeal circulation. All cases received membrane/tunnel resection ± Morrow miectomy, and also in complex group were required more aggressive techniques (20% modified Konno or Ross-Konno).

**Hospital mortality:** 4.3% in simple group, 0% in complex group.

Mean follow-up: 39±28 months (0.5 – 88.5).
Late mortality: 4.5% in simple, 4% in complex group
Simple group had lower reoperation rate during follow-up (9%) than complex group (20%)

In both groups, the last echocardiogram showed lower gradients in comparison with preoperative values.

The graph shows that aortic insufficiency increases over time in both groups.

**Conclusions:**
- Subaortic stenosis resection surgery during childhood has good results in simple and complex forms.
- Complex Subaortic stenosis patients require more aggressive surgery performed at a younger age.
- Surgery does not prevent progression of aortic insufficiency, or recurrence of subaortic stenosis.
- Our mortality is low in both groups, but morbidity and reoperation during follow-up are higher in complex group.

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