Journal review

1. **Long term outcome of patients with isolated thin discrete subaortic stenosis treated by balloon dilation: a 25 year study.** De Lezo JS, Romero M, Segura J, et al. *Circulation* 2011;124:1461–8. doi: 10.1016/S0019-4832(12)60025-X

This 25 year follow-up, retrospective study describes results of percutaneous transluminal balloon tearing of isolated thin discrete subaortic stenosis (DSS) in 76 patients. The age of patients at the time of dilation ranged from 2–67 years (mean 19 ± 16 years). The inclusion for the study was restricted to only those patients who had isolated DSS where the subaortic membrane was thin (<3 mm thickness, without fibromuscular component) along with significant subaortic gradient or symptoms or ECG signs of left ventricular strain. Following balloon dilation, the left ventricular gradient decreased from 70 ± 27 mmHg to 18 ± 12 mmHg, ($P < 0.001$). No significant post procedure aortic regurgitation was observed. After a mean follow-up time of 16 ± 6 years, 11 patients (15%) developed restenosis, 3 patients (4%) progressed to muscular obstructive disease and one patient (1.3%) developed a new distant obstructive membrane. Twelve (16%) patients were redilated at a mean of 5 ± 3 years and 4 patients (5%) underwent surgery at a mean of 3 ± 2 years after their first treatment. Fifty-eight (77%) patients remained alive and free of redilation or surgery at follow-up. Larger annulus diameter and thinner membranes were independent factors associated with better long-term results. Authors concluded that most patients (77%) with isolated thin DSS treated with transluminal balloon tearing of the membrane had sustained relief at subsequent follow-up without restenosis, need for surgery, progression to muscular obstructive disease, or an increase in the degree of aortic regurgitation.

Perspective

Discrete subaortic stenosis is a rare cardiac lesion which was considered to be a mystery due to many uncertainties regarding its origin, pathogenesis, natural history, treatment options, and recurrence after treatment. Although DSS has classically been considered a congenital malformation, there is evidence for an acquired subaortic membrane during life. Though first described in 1985, balloon dilatation has not been widely used, perhaps due to variable results in literature. The thickness of the membrane and its proximity to the aortic valve and/or mitral valve are some of the factors which may influence the result of balloon tearing. The findings of this study in which patients have been followed up for a long period of time, may help in better selection of patients who can benefit from an interventional procedure as a first line management strategy. Though the recurrence rate is noticeable, it is similar to that observed in surgical patients and both are probably influenced by the progressive nature of the disease. If restenosis of the membrane develops, balloon dilation can be repeated successfully in most patients. With this strategy, surgery for a thin membrane may be delayed or even avoided.

2. **A comparison of Blalock-Taussig shunts with and without closure of the ductus arteriosus in neonates with pulmonary atresia.** Zahorec M, Hrubsova Z, Skrak P, Poruban R, Nosal M, Kovacikova L. *Ann Thorac Surg* 2011;92:653–9. doi: 10.1016/S0019-4832(12)60026-1

There is no consensus whether the patent ductus arteriosus (PDA) should be ligated or not at the time of performing modified Blalock-Taussig (BT) shunt in neonates with pulmonary atresia. This retrospective observational study from National Institute of Cardiovascular Diseases, Bratislava, Slovakia, aimed to address this issue. Between January 1997 and October 2010, 62 neonates (mean age 6.9 ± 5.5 days) underwent modified BT shunt through mid sternotomy approach. Of these patients 31 neonates underwent closure of PDA while in remaining half it was left open. The decision regarding closing or leaving PDA during surgery was based on institutional protocol in majority and on operating surgeon's preference, with nine different operators involved. Primary outcomes analysed were mortality, resuscitation events, and the need for reintervention within the first 48 postoperative hours.