

COMBINED ATRIAL SEPTAL DEFECT CLOSURE AND PERCUTANEOUS PULMONARY VALVULOPLASTY FOR SECUNDUM ATRIAL SEPTAL DEFECT AND ASSOCIATED PULMONARY VALVULAR STENOSIS

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INTRODUCTION

Congenital pulmonary valve stenosis (PVS) and secundum Atrial septal defect (ASD) are relatively common forms of congenital heart diseases but combination of these two conditions is rare. First successful transcatheter balloon valvuloplasty for Pulmonary valve stenosis was done in 1982¹. Since then, it has become the treatment of choice for PVS in children with significant transvalvular pressure gradient as well as in adults²⁻⁴. Similarly closure of ASD has become the treatment of choice in selected patients⁵. We report a case of successful concurrent transcatheter balloon dilatation of significant PVS and ASD occlusion in a 5 yrs old male child during the same procedure.

CASE REPORT

A 5 years old male child was referred for evaluation of Cyanosis and heart murmur in July 2006. On evaluation, he was diagnosed to have severe pulmonary stenosis and secundum atrial septal defect. Cardiac catheterization confirmed a peak pressure gradient of 45 mm of Hg across pulmonary valve and simultaneous transesophageal echocardiogram revealed an 18 mm Secundum atrial septal defect, measured by the stretching balloon technique (Fig. 1). Pulmonary balloon valvuloplasty was done (Fig. 2). Pressure gradient was reduced to 20 mm of Hg across the pulmonary valve. Immediately after this procedure, a 22 mm Amplatzer septal occluder was implanted in the atrial septum to close the ASD. After 18 months of this procedure, the patient was asymptomatic with no evidence of residual shunt and on Doppler echocardiogram, he had a residual gradient of 23 mm of Hg across pulmonary valve.

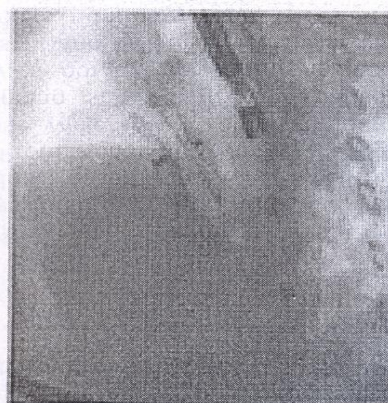


Fig. 1: Fully deployed Amplatzer septal occluder but yet to be released by unscrewing



Fig. 2: Fully deployed amplatzer septal occluder and pulmonary balloon valvotomy is being done.

DISCUSSION

Since 1982, transcatheter balloon dilatation for PVS has been the gold standard for obtaining right ventricular relief for children^{1,2} as well as for adults^{3,4} except in patients with dysplastic valve, who require surgical removal for adequate relief of obstruction⁶. Device closure of secundum ASD is the treatment of choice by transcatheter technique⁵. Combined ASD closure and pulmonary balloon valvuloplasty is infrequent but feasible method of treatment⁷⁻⁹. Successful dual interventional procedures have been performed to treat co-existing congenital cardiac defects in the same patients with coarctation of aorta and patent ductus arteriosus⁷. The advantages of Percutaneous correction over surgical

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procedure includes the avoidance of complications of open heart surgery, quick recovery and short hospital stay. Furthermore, by performing these two procedures in one sitting would make this therapeutic approach even more attractive.

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