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Atrial Septostomy in Children with Primary Pulmonary Hypertension

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Introduction:

Atrial septostomy (AS) is one of the therapeutic strategies for the treatment of severe pulmonary hypertension (PH) and right ventricular failure (VD) in children in whom medical therapy has failed. It has been developed as an alternative/bridge treatment to lung transplantation. In the following study, we describe our experience with emphasis on the safety of the procedure and the improvement of symptoms.

Material and methods:

Descriptive, retrospective study based on the review of the medical records of all children affected by HP with AS controlled in our center.

Results:

AS was performed in 11 children (54.5% males). The average age was 4 years (4 months to 11 years). The time between diagnosis of HP and AS was on average 20.4 months, 40% had syncope and worsening of clinical status, rest of cases had RV dysfunction despite the optimized pulmonary vasodilator therapy (VDP).

AS percutaneous was performed in 10 (8 using the Diabolo Fenestrated Stent Technique for mounting a Stent; 1 by Amplatzer atrial septal occluder with self-made fenestration, and 1 with exclusive balloon dilation) and 1 was surgical. All were guided by transesophageal echocardiography. AS size was selected based on SatHb (over 90%). 2 patients had HP crises requiring treatment increased VDP. There was no peri-procedure mortality. After the AS 5 children required mechanical ventilation and 1 ECMO. At follow-up, 2 children died due to progression of HP (other associated complications) within 6 months after the AS; 2 were transplanted, one at 4 months by progressive hypoxia and the other at 2 years. Of the remaining 7 after a median follow-up time of 32 months they are stable. Syncope disappeared and improvements in RV function have been shown using echocardiography.

Conclusion:

AS in children with HP is a safe procedure with low morbidity and mortality that allows a high percentage of cases to improve their clinical situation and delay lung transplantation.