Minimally Invasive Surgical Closure Of Ostium Secundum Atrial Septal Defects In The Pediatric Population

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Introduction: Almost three decades when the first reports of minimally invasive surgery has spread to influence nearly every type of cardiovascular operation, including pediatric population. We share the experience of our center in the last seven years repairing ostium secundum septal defects (Os ASD) using different minimally invasive (MI) techniques

Approach	<10 kg	11-15 kg	16-30 kg	> 31 kg	Total
L-Ms	8	19	2	1	30
AX		20	28	3	51
R-PLT		4	6	1	11
S-M			6	3	9
VATS			3	19	22
Total	8	43	45	27	123

Table 1: L-Ms: Lower mini-sternotomy, AX: Right axillary thoracotomy, R-PLT: Right postero-lateral thoracotomy, S-M:Sub-mammary crease incision, VATS: Video-assisted mini-thoracotomy.

Methods & Results: 123 children with a Os ASD has been repaired in 7 years with five different MI surgical approach depending of their body-size: (30) Lower mini-sternotomy, mainly for children under 15 Kg, (11) Right postero-lateral thoracotomy, (9) Sub-mammary crease incision, (51) Right axillary thoracotomy and (22) video-assisted mini-thoracotomy with peripheral cannulation in children over 31 kg. Gradually as more experience was gained the postero-lateral approach was shifted to an axillary one and the sub-mammary incision was swapped to a video-assisted mini-thoracotomy. 105 of the closure was using a patch and 18 was with direct closure. No neurological events were detected, a compartment syndrome was reported without residual sequelae, the aesthetic results were excellent.

Conclusion: Minimally approach in the pediatric cardiac patients is possible and save. The wide range of incisions enables the most appropriate one to be selected depending on body size.

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