Clinical Outcome of Thoracoscopic ASD closure versus conventionalmedian sternotomy

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Objective

Comparisonof the results of closure of the atrial septal defect using thoracoscopic and median approaches

Methods

Between 2012 and 2019, 173 patients with atrial septal defects were divided intotwo groups: thoracoscopic group (n-93) and conventional median sternotomy group(n-80).In the thoracoscopic group, all patients underwent totalendoscopic procedures with peripheral cardiopulmonary bypass, whereas for the conventional group, allpatients were operated usingconventionalmedian sternotomy approach.Both ASD closure techniques were performed on beating heart. The average age of patients in thoracoscopicgroup was 32,7±16,7 years, in conventional group was 29,8±16,3 years.

Results

ASD closure was successful and there were no in-hospital mortality or major complications.The total duration of operation in thoracoscopicgroup was 238,82±40,74 minutes and in conventional group 212,31±46,67 minutes ($p<0,05$). CPB time were 59,01±18,27 vs. 39,15±19,92min ($p<0,05$), duration of intensive care staywas15,19±3,18 vs. 23,64±7,27 hrs ($p<0,05$), mechanical ventilation time were 170,7±103,29 vs 235,56±112,33 minutes($p<0,05$), whereas volumes of operational bleeding were 92,85±47,42vs 214,56±51,6ml ($p<0,05$) and duration of post-operative hospital stay were 6,06±1,1 vs. 9,04±2,1 days ($p<0,05$) in thoracoscopic and conventional group,respectively. Follow-up transthoracic echocardiography before discharge showed no residual shunts in all patients.It should be noted that the postoperative scar in thoracoscopic group was significantly smaller in its size ($p<0.05$) than one in the conventional group (6.06 ± 1.1 and 17.4 ± 3.9 cm, respectively), which is especially important from the aesthetic side of the intervention.

Conclusions

The data obtained indicate the successful use of two approaches, however, in the group where thoracoscopic correction was performed, duration of stay in the ICU and in the hospital, volume of blood loss, the need for blood transfusion, and the length of the skin incision were significantly lower than in the group with the median sternotomyaccess.

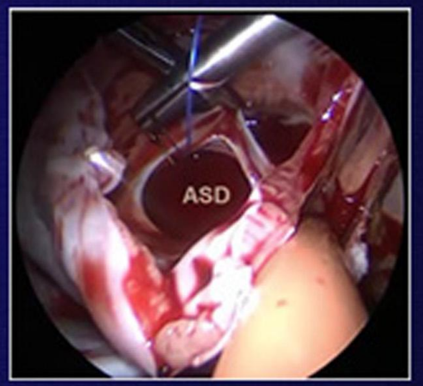


Figure 1 -ASD

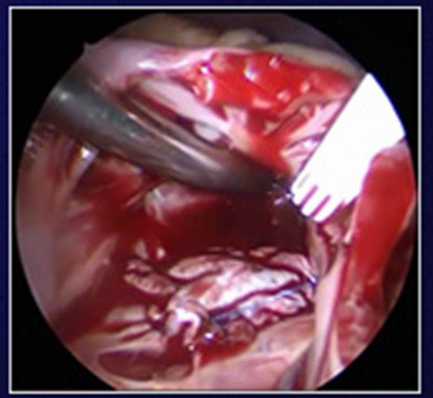


Figure 2– After closure ASD