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Right anterior minithoracotomy vs. conventional median sternotomy in surgical ostium

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Background: Ostium secundum Atrial Septal Defect (ASD) is one of the most common congenital heart diseases. Right Anterior Minithoracotomy (RAMT) is a promising technique for surgical closure of ASD.

Objectives: This study aimed to assess the safety of minimally invasive RAMT with peripheral cannulation and compare it to full median sternotomy (Conventional Median Sternotomy, CMS) regarding clinical outcomes and Health-Related Quality of Life (HRQOL) in surgical closure. Methods: In this quantitative, cross-sectional study, all clinical records of 51 patients (30 RAMT and 21 CMS) who underwent ASDII closure between March 2016 and November 2019 were collected. The patients' HRQOL was evaluated using a Short Form-12 questionnaire. The two groups' clinical outcomes and HRQOL were compared using IBM SPSS Statistics.

Results: This study was conducted on 30 patients (23 females and 7 males) with RAMT and 21 patients (10 females and 11 males) with CMS ASD closure. The two groups were similar with respect to age, left ventricular ejection fraction, preoperative hemoglobin, family status, level of education, and employment status. However, operation length, Cardiopulmonary Bypass (CPB) time, and mean aortic cross clamp time were significantly lower in the CMS group ($P < 0.001$). The mean amount of chest tube drainage in the first 24 hours after surgery was 148.27 ± 122.82 mL in the RAMT group and 217.50 ± 134.04 mL in the CMS group ($P = 0.02$). The results showed no significant difference between males and females regarding the mean CMS and total score of HRQOL. Yet, the mean score of PCS was significantly better in the female patients in the RAMT group ($P = 0.03$) (figure1).

Conclusions: Despite the longer operation and cardiopulmonary bypass time, RAMT procedure was associated with similar mortality and lower postoperative bleeding. Moreover, female patients in the RAMT group showed better physical component of HRQOL.

Biography

Amir Mirmohammadsadeghi. After graduating in September, 2012 I have worked as assistant professor of cardiac surgery in Chamran Heart Center related to Isfahan University of Medical Sciences. I also work in Milad Hospital, Isfahan, Iran which is a private hospital since May, 2018. Besides Routine cardiac operations such as coronary artery bypass graft surgery and valvular heart surgery I have special experience in Heart Transplantation, dissection of aorta, and pulmonary endarterectomy. Also, I have the honor of being the pioneer of minimally invasive cardiac surgery (MICS) in Isfahan province since July, 2016 and being the current head of MICS ward in Chamran Heart Center.

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