

Less Invasive Approaches for Mitral Valve Surgery, Between Patient Satisfaction And Affordability

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Background:

Full median sternotomy has been a standard surgical approach for heart surgery for more than 50 years. Several advantages increasing the use of less invasive approaches to the mitral valve surgery including, cosmetic, blood product use, respiratory, and pain advantages over conventional surgery. Parasternal incision, right mini-thoracotomy and partial sternotomy are described approaches for less invasive cardiac surgery.

Objective:

Comparing the less invasive approaches via upper partial sternotomy vs right mini-thoracotomy in mitral valve surgery.

Methods:

Sixty patients, underwent mitral valve surgery in NHI, were enrolled in this study and divided into two equal groups, and randomly assigned into two equal groups: group upper mini-sternotomy (UMS group, n = 30) or group RMT group (n = 30). The preoperative characteristics, operative variables, mortality, and morbidity were analyzed prospectively.

Results:

No difference was found between the two groups as regards the mortality. However, in Group UMS, blood loss was higher, also cross clamp time and total bypass time were longer without significant difference. RMT group showed less time on mechanical ventilation, ICU stay and total hospital stay. In Group UMS, two patients (7%) developed superficial wound infection, and one patient (3%) required permanent pacemaker.

Conclusion:

Both approaches are Upper partial sternotomy and right mini thoracotomy are considered a safe alternative for mitral valve replacement, and can provide adequate exposure for mitral valve. In Upper partial sternotomy, conventional cardiopulmonary bypass, no specific instruments or endoscope were needed. In right mini thoracotomy, a longer learning curve and special instruments were required, however, it carried better outcome considering patient satisfaction for pain and cosmetic outcome and comparable results in the hospital stay and short return to activity.