

ORAL PRESENTATION

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# Optimally invasive mitral valve surgery: a safe and effective approach

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From 23rd World Congress of the World Society of Cardio-Thoracic Surgeons  
Split, Croatia. 12-15 September 2013

## Background

We aim to report our data on the efficacy and safety of using an optimally invasive sternum-sparing approach to MV surgery.

## Methods

Between April 2007 and December 2012, we used a sternum-sparing but optimally invasive approach to MV surgery on 99 patients (mean age  $60.71 \pm 12.9$  years) with mean preoperative EF and LVEDD of  $53.8 \pm 11.4$  % and  $56.13 \pm 6.9$  mm, respectively. Twenty seven patients had previous coronary artery bypass and MV surgeries. All patients had severe mitral insufficiency (MI) from chordal rupture; prolapse of the anterior leaflet, paravalvular leak, endocarditis, floppy MV, and from previous MV surgery. The optimally invasive approach was a right-sided anterolateral thoracotomy at the 5th intercostal space with an approximately 10 cm skin incision. Cardio-pulmonary bypass (CPB) was through either cannulation of the ascending aorta or femoral artery with direct bicaval cannulation. Modified Gerbode-Hetzer plication for ruptured chordae and modified Paneth-Hetzer posterior annulus shortening annuloplasty, for annulus dilatation or leaflet prolapse were employed. Paravalvular leaks were closed. Intraoperative TEE was used to evaluate the adequacy of repair or replacement.

## Results

The mean CPB and cross-clamp time were  $134.4 \pm 52.2$  and  $56.63 \pm 29.7$  minutes, respectively. All patients were discharged with either absence or minimal MI. Mean postoperative EF improved to  $65.13 \pm 8.7$  % while mean postoperative LVEDD decreased to  $51.6 \pm 7.0$  mm. Sixty-seven percent of patients were extubated within 24 hours, 86% required minimal postoperative analgesia

and all had satisfactory functional results on follow-up (mean  $4.2 \pm 1.07$  years) aside from good cosmesis. Freedom of reoperation is 100% until the last follow-up.

## Conclusions

This new innovative approach is a safe and effective option to MV surgery, reduces surgical trauma, increases patients' functional capacity and satisfaction, no morbidity, with 100% freedom from reoperation in 4 years.

Published: 11 September 2013

doi:10.1186/1749-8090-8-S1-O269

Cite this article as: Amiri et al.: Optimally invasive mitral valve surgery: a safe and effective approach. *Journal of Cardiothoracic Surgery* 2013 **8**(Suppl 1):O269.

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