RIGHT ANTERIOR MINITHORACOTOMY FOR AORTIC VALVE REPLACEMENT EARLY OUTCOME OF A SINGLE CENTER

S. Brüls, MD; D. Halleux, MD; J-P Lavigne, PhD; V. Tchana-Sato, PhD; R. Durieux, PhD; Q. Desiron, MD; J-O Defraigne, PhD

OBJECTIVE

Aortic valve replacement (AVR) through a right mini-thoracotomy (RAMT) is technically more complicated. However, its potential benefits include less postoperative pain, blood loss and transfusion, with a faster recovery. We report our early experience of aortic valve replacement through a RAMT.

METHODS

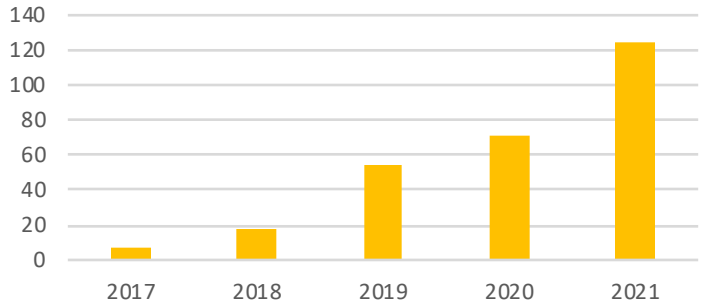
From mars 2017 to November 2021, a total of 250 patients were selected to undergo an AVR via RAMT. Complete procedures were achieved in 242 patients through a small 5cm RAMT in the second or third intercostal space. Cardiopulmonary bypass was established through the femoral vessels or subclavian artery. Preoperative diagnoses were aortic valve stenosis (n=245), insufficiency (n=3) and endocarditis, (n=2).

RESULTS

Reason for conversion to sternotomy was: severe pleural adhesions (n=2), aortic root enlargement to avoiding patient-prosthesis mismatch (n=2), femoral cannulation management problem (n=2), right coronary ischemia (n=1) and poor exposure (n=1). All patients requiring conversion to sternotomy were observed during the beginning of our experience (the first eight months). For the 242 patients who undergone complete AVR through RAMT, the mean age was 71 years (ranging from 42 to 90) including 128 male and 114 female patients. 130 patients benefit from a conventional bioprosthesis, 98 patients a sutureless bioprosthesis and 14 patients a mechanical prosthesis. The mean aortic cross-clamp and cardiopulmonary bypass time was 61 and 92 minutes respectively. Median intensive care unit and hospital stay were 1,7 and 6,5 days respectively. Pacemaker implantation rate was 7% (4.5% after bioprothesis and 12% after stentless bioprosthesis). At discharge, 74% of the patients back home directly. In hospital mortality was 4,2%.

CONCLUSION

Minimally invasive AVR through a right minithoracotomy, even if more technically complicated, is a safe and reproducible approach. The benefit is well know: a lower rate of postoperative pain, blood loss and transfusion, with a faster recovery and a more aesthetic incision. After a mentoring programme and a learning curve, experienced surgeons could replace standard sternotomy with a RAMT approach.



Department of Cardiac, Vascular and Thoracic Surgery, University hospital of Liège, Belgium