

Alternative Approach for Aortic Valve Replacement in Octogenarians

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Background: Alternative surgical approach has emerged for aortic valve replacement. The non-sternotomy, minimally invasive (MIVS) open heart surgery has become a well established alternative to median sternotomy. Recently, a trans-apical, catheter valve implantation has gained popularity for high-risk patients requiring AVR.

Objective: We analyzed the surgical results of octogenarians undergoing AVR through MIVS or trans-apical (TAVI) approach.

Methods: Sixteen patients (mean age 82 yrs; range 80-91) underwent MIVS through right anterior mini-thoracotomy. Surgery was performed using CPB, allowing conventional replacement of the aortic valve. Transapical was performed in 12 patients (mean age 85 yrs; range 80-89). Gaining access to the heart was performed through the 4th intercostal space using catheter based technology. The mean calculated logistic EuroSCORE was 11.3±5% and 28.8±8.9% for the MIV and TAVI groups, respectively.

Results: Thirty day survival was 96.4% for both groups. No conversion to median sternotomy was required. One patient underwent an early operation due to prosthetic valve dysfunction (MIV group). Other postoperative complications included re-operation due to bleeding in 4 patients and wound infection in one patient. We observed one case of stroke and one case of renal failure (TAVI group). One patient had cholecistitis sepsis and three patients required prolonged ventilation (MIV and TAVI group). Neither aortic dissection nor mediastinitis was observed.

Conclusions: Minimally invasive approach for aortic valve replacement (MIVS and TAVI) is safe and durable technique in high risk octogenarian patients. This approach should be added to the surgeon's armamentarium when considering high risk aortic valve replacement.