

### Aortic Valve Replacement in Octogenarians in the Era of Percutaneous Aortic Valve Intervention: Utility of Risk Stratification With EuroSCORE

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**Background:** With the advent of percutaneous valve implantation, an increasing amount of interest is being expressed in outcomes of conventional aortic valve replacement (AVR) in elderly patients. We evaluated characteristics and outcomes of elderly patients undergoing isolated AVR with a particular focus on the European System for Cardiac Operative Risk Evaluation (EuroSCORE) risk stratification.

**Methods:** All patients aged 80 years or older ( $n = 73$ ) undergoing isolated AVR between October 2003 and September 2009 were reviewed according to logistic EuroSCORE risk stratification. Surgical risk was defined as low risk (score  $10\%$  [ $n = 16$ ]), moderate risk ( $10\% < \text{score} < 20\%$  [ $n = 30$ ]), and high risk (score  $20\%$  [ $n = 27$ ]). Patients age was  $82 \pm 1.1$  years (low risk),  $83.8 \pm 2.1$  years (moderate risk), and  $83.4 \pm 1.9$  years (high risk), respectively ( $p = 0.04$ ). Mean EuroSCORE predicted risk of mortality was  $8.4\% \pm 1.2\%$  (low risk),  $14.3\% \pm 2.8\%$  (moderate risk), and  $38\% \pm 3.5\%$  (high risk;  $p < 0.001$ ).

**Results:** In-hospital mortality was 0 (low risk), 3.3% (moderate risk), and 18.5% (high risk;  $p = 0.045$ ). One-year survival was 78%, 90%, and 59%; 5-year survival was 70%, 63%, and 53% ( $p = 0.23$ ), for low-, moderate-, and high-risk patients, respectively (figure). Independent predictor for in-hospital mortality was preoperative renal dysfunction. Cox regression predictors of medium-term survival were urgent indication for surgery, and preoperative renal dysfunction. **Conclusions:** In the modern era, octogenarians with low and moderate risk have excellent short- and long-term results after open AVR. High risk patients carry high early mortality. However, survivors, even in this high risk group, have life expectancy approaching that of age matched general population. Comparisons of less invasive techniques for AVR should rely on outcomes based in the modern era and decisions regarding surgical intervention in patients requiring AVR should not be based on age alone.

