

Anabel Rocio Pedraza Concha

Dr. med.

## **Early and Long-term Outcome of 190 Octogenarians with Isolated Aortic Valve Replacement: Predictors and Survival**

Promotionsfach: Chirurgie

Doktorvater: Professor Dr. med. Artur Lichtenberg

A study was performed with 190 octogenarians, who received isolated aortic valve replacement at Heidelberg University Hospital in the Department of Cardiac Surgery between 1997 and 2007.

Follow-up was 94% complete. Mean follow-up was  $2.9 \pm 2.5$  years. Patients were categorized into early (80-84 years) and late (85-89years) octogenarians. Preoperative mortality risk was assessed with EuroSCORE risk models.

Results showed that mortality after conventional aortic valve replacement in late octogenarians was very high, and EuroSCORE underestimated mortality in this group of patients. Regression analysis revealed that late octogenarian, poor LV function and prolonged CPB time are predictors of 30-day mortality. Predictors of late mortality, comprising mortality at 180-days and at final follow-up date are prolonged cardiopulmonary bypass time, length of intensive care unit stay, and sepsis.

Kaplan-Meier survival estimates showed significant diminished long-term survival for patients with CPB time over 119 minutes, patients who needed inotropic drugs intraoperatively or postoperatively and for patients with postoperative complications.

Risk algorithms are important tools for risk-adjustment and patient selection, but they should not be taken as the ultimate counsel for decision-making. Surgical judgement should continue to be used in conjunction with percentage values of different risk scoring systems to identify high-risk patients and proceed with the wisest decision in accordance with the patient's desires.

The current study confirms despite high mortality rates in late octogenarians that AVR is a safe, acceptable treatment for selected octogenarians, as were most of our early octogenarians, with good short- and long-term survival. Special attention must be paid to the postoperative period, for in our study postoperative events were

associated to poor early and long-term survival, more than preoperative comorbidities.

Finally, in late octogenarians and in octogenarians with poor left ventricular function, catheter-based aortic valve implantation should be considered as a reasonable alternative. The current study revealed that conventional AVR does not bring the desired benefit to late octogenarians.