Overestimation of the operative risk by the EuroSCORE also in high-risk patients undergoing aortic valve replacement with a stentless biological prosthesis

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Background
The EuroSCORE generally overestimates the risk of standard aortic valve replacement (AVR). The predictive value of this risk algorithm for high-risk patients undergoing stentless AVR is unclear; therefore, we compared the EuroSCORE prediction with our results in this patient population.

Methods
One hundred thirty-two patients with a logistic EuroSCORE of at least 10 (mean, 25) underwent primary isolated AVR with a stentless bioprosthesis between January 2004 and December 2007. Seventy-one patients (54%) were octogenarians or nonagenarians, 62 (47%) had a reduced left ventricular ejection fraction, and 46 (35%) had an extracardiac arteriopathy.

Results
Maximum/mean pressure gradients for the implanted valve prostheses were 19/11 mm Hg, and the mean regurgitation grade was 0.06. Stroke occurred in 3% of the patients, and a permanent pacemaker was required in 3%. The 30-day mortality rate was 8%. Another 5% of the patients died after the 30th postoperative day but within the same hospital admission. The predicted mortality was almost 100% greater than the observed mortality.

Conclusion
We observed a mortality rate that was 50% lower than that predicted by the logistic EuroSCORE. Therefore, one should not hesitate to use stentless valves in high-risk patients because the EuroSCORE greatly overestimates their surgical risk.