

P2. Question Of Clinical Reliability: Aortic Valve Replacement Observed Vs Euroscore-predicted Mortality

Tamer Ghazy; Utz Kappert; Klaus Matschke

Department of cardiac surgery, Dresden Heart Center University Hospital, Dresden, Germany

OBJECTIVES: To question the clinical reliability of the EuroSCORE as a predictor of operative risk in Aortic valve replacement (AVR) procedure.

METHODS: From 2000 till 2007 1497 Patients underwent isolated elective AVR (no endocarditis, aortic procedure or re-do) in our centre. A fitting of the deviation of the expected mortality (EM) from the observed mortality (OM) was performed and studied. To find the cause of deviation of the EM a multivariate analysis of the EuroSCORE variables (using SAS® JMP® software) was run on our data and the results were re-evaluated.

RESULTS: an overestimation of the EM was observed and found to be increasing systematically with the increase of the expected risk (from overestimation of $0,3 \pm 1,0\%$ at 5% OM to $23,8 \pm 1.9\%$ at 35% OM; $P < 0,0001$). Multivariate analysis of the EuroSCORE variables on our data showed only age and preoperative neurological dysfunction as significant risk factors ($P < 0,003$ und $p < 0,04$ respectively). All the other EuroSCORE variables showed statistical insignificance. Studying age against both EM and OM revealed an overestimation of risk in response to increase of age in the EM compared to the OM curve.

CONCLUSIONS: The EuroSCORE is clinically unreliable as a predictor of operative risk for elective AVR and should no longer be used in its present form. One major cause of deviation might be the overestimation of age as a risk factor. We recommend that every center develops a statistical correction of the EuroSCORE deviation based on its own data.