

Risk Scores in Heart Valve Surgery

Michel Pereira Cadore, João Carlos Vieira da Costa Guaragna, Luiz Carlos Bodanese

Hospital São Lucas da Pontifícia Universidade Católica do Rio Grande do Sul, Porto Alegre, RS - Brazil

Dear Editor,

We read with interest two manuscripts recently published in the Point-of-View session of this journal^{1,2}, which discuss the importance of risk scores when indicating heart valve surgery.

The scores most frequently used to quantify the risk of death in patients undergoing heart valve surgery in our country were developed in populations with different characteristics from that of our country, thus determining limitation of its use, and this has already been demonstrated. The European System for Cardiac Operative Risk Evaluation (EuroSCORE) is probably the most widely known score. However, it is not specific for heart valve surgery, because in the development of this score data from heart valve surgeries and from coronary artery bypass grafting were associated.

We express our perplexity because our study published in this journal, and conducted in our Institution, has not been considered. We presented a score developed from a database of 1086 patients which exclusively underwent heart valve

surgery³. Discrimination of the model developed according to the ROC curve (Receiver Operating Characteristics) was 0.83 (95% CI 0.78-0.86). Score calibration calculated by the Hosmer-Lemeshow (H-L) test indicated a good performance of the model ($r = 0.98$, $\chi^2 = 5.61$ and $p = 0.691$). Our score had internal validation, obtaining a ROC curve of 0.84 and a H-L test with $p = 0.37$, and also were validated in another national institution⁴, obtaining a 0.78 ROC curve and a H-L test with $p = 0.81$. In our study, the overall death rate was 11.8%, and, in elective surgeries, 8.8%. Our score is unique, because it is the only one in our country capable to estimate the risk of death in patients undergoing isolated heart valve surgery. Currently, this score, along with another one developed in our institution for patients undergoing coronary artery bypass grafting⁵, is routinely used in our daily practice and applied along with EuroSCORE. In the near future, recalibration of the scores and comparative studies with the EuroSCORE will be possible to be done.

Keywords

Heart valve surgery; risk scores.

Mailing Address: Michel Pereira Cadore •

Sape, 50 / 304, Passo D'Areia. Postal Code 91350-050, Porto Alegre, RS - Brazil
E-mail: michelcadore@cardiol.br, michel_cadore@hotmail.com
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