

Letters to the Editor/Cartas ao Editor

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Comments on “Impact of type of procedure and surgeon on EuroSCORE operative risk validation”

Dear Editor,

We read with great interest the article by Atik et al.: “Impact of type of procedure and surgeon on EuroSCORE operative risk validation”, published recently in the Brazilian Journal of Cardiovascular Surgery^[1]. The issue is very relevant especially in the current era of continuous quality improvement and increasing societal demand for consistent performance assessment and monitoring. We would like to take the chance to add some thoughts about the use of risk stratification models for the prediction of hospital mortality after adult cardiac surgery.

The EuroSCORE in its original version (ES I) firstly introduced in 1999^[2] was a simple and easily applicable risk assessment tool adopted by many surgical units and cardiothoracic surgery societies worldwide. The system performance was highly successful for a decade, but it became less well calibrated, due to the evolution in the field of cardiac surgery, despite a constant adequate discriminatory power with an area under curve (AUC) of 0.75–0.80. To overcome this problem an updated model-version the EuroSCORE II (ES II) was presented in 2011^[3]. This system resulted from a refinement and modification of some of the established risk factors and the way the model evaluates them.

The series of Atik et al.^[1] consists of 2,320 consecutive patients operated on between January 2006 and June 2011. Despite the fact that the study population seems to differ widely, as presented in Table 1, in crucial characteristics such as age, proportion of female patients, incidence of comorbidities, and spectrum of performed surgical procedures, from the EuroSCORE reference population, there is a certain amount of cases operated in a time period contemporary to the ES II development. However this last variable, namely the impact of the institutional cardiac surgical evolution on the EuroSCORE (including ES II), was not evaluated by the authors. In our eyes this specific study-collective structure justifies a validation of the ES II, as long as firstly there exist up to now only a few external model validation studies outside of Europe^[4], and secondly the published European series partly posed concern about the predictive power of the new ES II version especially in high risk- or combined procedures patients^[5].

In general, Atik and coauthors confirm with their study, as the literature reported, ES I limitations. However, it seems that the cardiac surgical community put a lot of unfulfillable expectations in the use of scoring models. We should keep in mind, that those models evaluate only the risk and not the quality of care, meaning that a surgeon should not decide about an indication for surgery based on the scoring. In addition a scoring system should be adjusted on the specific institutional needs and features in order to achieve best possible calibration and discrimination. Nevertheless the individual clinical judgment of the patient based on clinical entities and symptoms, which potentially may affect the outcome, remains the cornerstone in decision making and cannot be totally replaced by a scoring model.

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