

SURGERY

Should EuroSCORE II be simplified?

A first external validation study for the EuroSCORE II has been published.

Overall, the investigators concluded that this updated EuroSCORE algorithm was a good predictor of perioperative mortality, but that it does not significantly improve prediction for high-risk patients, compared with previous EuroSCOREs. Additionally, they showed that the EuroSCORE II could be simplified without reducing its performance. The investigators believe that the inclusion of seven nonsignificant factors “should be reconsidered, after a further step of external validation of the reduced EuroSCORE II model”.

Multiple studies have shown that the original logistic EuroSCORE, developed in 1999 and used to estimate risk of in-hospital mortality after cardiac surgery, is poorly calibrated when used in contemporary settings. The EuroSCORE II was developed and published earlier this year in an attempt to overcome this problem, but had not undergone external validation until now.

Data for 12,325 patients who underwent major cardiac surgery in 2006–2011 were

used in the validation study. In their comparison of the older (logistic and additive) EuroSCOREs with this new version, Fabio Barili and colleagues found no differences in discriminatory power; the area under the curve was 0.82 for all three scores. The EuroSCORE II predictions were well calibrated for patients with predicted probability <30% (the majority) but, like the logistic EuroSCORE, overpredicted mortality in higher-risk patients. Moreover, removing seven nonsignificant factors from the EuroSCORE II did not reduce its calibration or discrimination.

In an accompanying editorial, Bernard Iung and Alex Vahanian remind clinicians to “keep in mind the limitations of current risk scores in high-risk patients, in whom predicted values should be integrated into, but should not be a substitute for, clinical judgment”.

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Original article Barili, F. *et al.* Does EuroSCORE II perform better than its original versions? A multicentre validation study. *Eur. Heart J.* doi:10.1093/eurheartj/ehs342