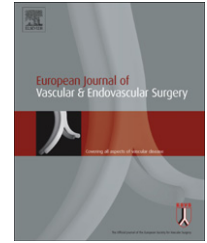




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INVITED COMMENTARY

Comments regarding 'Personalised Predictions of Endovascular Aneurysm Repair Success Rates: Validating the ERA Model with UK Vascular Institute Data'

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This important paper externally validates the ERA Model. The model has the potential to improve the care for patients who are considered for endovascular aneurysm repair. For most readers of the journal this is a quite theoretical paper, which is often a reason to take the conclusion for granted, without any further implementation in personal practice. Is this right? When I reviewed the paper I immediately felt that I had to take good notice of the content as the successful external validation of a prediction model might have consequences for my decision making and the informed consent procedure with my patients. The ERA Model provides more extensive information than previous prediction models (e.g. GAS) as besides perioperative mortality and morbidity, it also predicts technical failures, the need for reintervention and long term survival.

Is the ERA model sufficiently precise? In the preceding internal validation paper (reference 1 of the authors) the authors nicely illustrate two scenarios, one 85 years old high risk patient with a complicated anatomy and a 55 years old low risk patient with a rather simple anatomy. For the low risk patient the confidence intervals around the point estimates for the different items are small, resulting in precise and

useful information with regard to perioperative risk, need for reintervention and long term survival. However, this contrasts with the rather large confidence intervals for the high risk patient, leaving room for uncertainty and a feeling that the model for such a patient is not very useful. In practice, based on clinical experience, most of the times it is not difficult to make a decision with regard to low and high risk patients. Decision making for patient at intermediate risk is less easy and a prediction model in these patients might be more helpful. From the paper it is not sufficiently clear if the model works out well for this group and really has additional value in relation to clinical judgment. The authors should consider a study in which this 'grey zone' with regard to decision making is more precisely evaluated.

The paper nicely illustrates that the ERA Model has external validity, despite the significant difference in demographic parameters between the Australian and UK population. This is promising. However, from a statistical point of view larger data sets and additional external validation in different populations are needed to improve the model and to get it accepted in the long run. This is also admitted by the authors, they will undertake further testing.

Keep an eye on future publication as the ERA Model is promising! In the mean time I would advise to visit the website (www.health.adelaide.edu.au/surgery/evan) and try the model for some of your patients to get a sense what the data could mean for you.

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