The decision to palliate, that is to withhold potentially effective treatment, is justified by the belief that the treatment is of no benefit and that it would carry excess mortality risk. Nevertheless, concerns remain over when, why, and whether palliating patients with abdominal aortic aneurysm (AAA) makes sense, as the decision is still largely based on the subjective interpretation of harsh reality. Critical appraisal of sound evidence suggests that there are no reliable or valid criteria to establish whether to treat an aneurysm in either the elective or emergency situation. It has been suggested that there will always be some patients at “highest risk,” “unsuitable for intervention,” in whom the risk of elective large AAA repair will outweigh potential survival benefits. Given that the likelihood of death from non-aneurysm related causes is greater than that from the aneurysm itself, and that life expectancy would not increase despite intervention, palliation should be offered to these patients. However, how the “highest risk” or “unfitness” profile should be objectively and reliably measured, to withhold elective aneurysm repair, remains debatable and not standardized.

Even more challenging is the decision to turn down patients with ruptured AAA (rAAA) as suggested in the paper by the Amsterdam Acute Aneurysm Trial group (AIAAX) trial published in this issue of *European Journal of Vascular and Endovascular Surgery*. Authors tested a number of well known, already developed, predictive models, some refined for patients with rAAA, to identify subgroups at high mortality risk, based on a variety of demographics, comorbidity, and severity conditions (e.g. Hardman index, Vancouver scoring system, updated Glasgow Aneurysm Score [GAS], and Edinburgh Ruptured Aneurysm Score). Nevertheless, the study showed only limited and insufficient performance of all the current prognostic models when applied to 449 real patients with rAAA treated in 10 Netherlands hospitals in modern times (after 2004). Even more relevant was the poor discrimination shown by all the prognostic models in their ability to differentiate the severity of disease and thereby to identify patients with a predicted excess death rate (>95%) who might reasonably be turned down for treatment. Besides the common computable demographic and comorbidities, there are too many more subtle and less measurable or ignored factors that can affect the ability to survive or die for patients presenting as an emergency with rAAA, especially nowadays, where the procedures can be performed endovascularly with decreased mortality risks.

The messages of this paper are also of relevance because, previously the same authors performed one of the few randomized clinical trials (RCT) comparing open and endovascular repair in rAAA (AIAAX trial). This showed no difference in the 30 day mortality between two treatment groups when applied in a randomized cohort. Even though two other RCTs confirmed clinical equipoise between EVAR and open repair for rAAA as stated by the AIAAX, other large non-RCTs data all agreed on decreased (by about half) mortality rate using the endovascular approach, as recently shown in a large meta-analysis: pooled odds ratio for death was 0.44 (95% CI 0.37—0.53) in observational studies and 0.54 (95% CI 0.47—0.62) in administrative studies. Critical appraisal of evidence suggests that for acute settings of rAAA, RCTs may not constitute the best evidence and more likely represent a “failed experiment”: random assignment of treatment in emergency AAA ruptures may be challenging and the external validity (closeness to the truth), and thereby the generalizability, of results obtained with random allocation is poor. Using an individualized selected approach based on judgment of suitability for an endo or open strategy following a structured rAAA protocol seems a more reasonable approach than any random strategy of treatment for ruptured aneurysms.

In the validation study by the AIAAX group, the questionable cumulative analysis of mortality regardless of the endovascular or open procedure used for rAAA repair may indeed represent a strength: observed mortality rates would be even more reliable reflecting the current real world practice where both endovascular and open strategies are alternatively offered in patients with rAAA.

Even more relevant was the poor discrimination shown by all the prognostic models in their ability to differentiate the severity of disease and thereby to identify patients with a predicted excess death rate (>95%) who might reasonably be turned down for treatment. Besides the common computable demographic and comorbidities, there are too many more subtle and less measurable or ignored factors that can affect the ability to survive or die for patients presenting as an emergency with rAAA, especially nowadays, where the procedures can be performed endovascularly with decreased mortality risks.

The messages of this paper are also of relevance because, previously the same authors performed one of the few randomized clinical trials (RCT) comparing open and endovascular repair in rAAA (AIAAX trial). This showed no difference in the 30 day mortality between two treatment groups when applied in a randomized cohort. Even though two other RCTs confirmed clinical equipoise between EVAR and open repair for rAAA as stated by the AIAAX, other large non-RCTs data all agreed on decreased (by about half) mortality rate using the endovascular approach, as recently shown in a large meta-analysis: pooled odds ratio for death was 0.44 (95% CI 0.37—0.53) in observational studies and 0.54 (95% CI 0.47—0.62) in administrative studies. Critical appraisal of evidence suggests that for acute settings of rAAA, RCTs may not constitute the best evidence and more likely represent a “failed experiment”: random assignment of treatment in emergency AAA ruptures may be challenging and the external validity (closeness to the truth), and thereby the generalizability, of results obtained with random allocation is poor. Using an individualized selected approach based on judgment of suitability for an endo or open strategy following a structured rAAA protocol seems a more reasonable approach than any random strategy of treatment for ruptured aneurysms.

In the validation study by the AIAAX group, the questionable cumulative analysis of mortality regardless of the endovascular or open procedure used for rAAA repair may indeed represent a strength: observed mortality rates would be even more reliable reflecting the current real world practice where both endovascular and open strategies are alternatively offered in patients with rAAA.

In summary, the endovascular approach has challenged the accuracy, calibration, and discrimination ability of prognostic models used to predict the mortality of AAA.
repair. At the time of AAA rupture, mortality is expected in any patient if left untreated. Given the lower likelihood of dying for many patients currently undergoing repair and the failure to discriminate survivors by predictive prognostic models, there may be no reasonable palliation today for rAAA. The criteria for withholding intervention for rAAA need to be revised and supported by sound and more reliable data. When balancing the current risks and benefits of intervention for rAAA it is likely that only a few, if any, denials will currently be justified.

REFERENCES