with those recently published. We found that ascending aorta and arch diameters were larger in the TBAD group than in controls (3.5 vs 3.0 cm and 3.3 vs 2.6 cm, both $P < 0.001$), and an elongation of the portion including the ascending aorta and the arch (11.4 vs 9.8 cm, $P < 0.001$). The aortic arch height and 45° distance to the aortic arch centre were both longer in TBAD patients than in controls (+24% and +20%, $P < 0.001$, respectively). Conversely, the ascending aorta tortuosity, which included the aortic arch, remained similar in our groups (1.26 vs 1.29). Despite this discrepancy with Cao *et al.* results, we wanted to understand why age has not been included as a co-factor in their logistics models. When we did a similar exercise to build our logistic models using the age-matched groups, age was consistently selected by the automated stepwise procedure into our model, accounting for 88% of the samples in a 1000 times bootstrap validation. We have concluded that, even if the groups were age-matched, the strong association of ageing with most of the three-dimensional anatomical markers could not be neglected from any prediction model. Our logistic model including ascending aorta diameter, length and age explained 72% of the model variability ($r = 0.85$). Furthermore, several of the aortic anatomical markers disappeared from the logistic regression after adjusting for age. From our experience, age-associated changes in aortic geometry should not be excluded from any risk model developed to prevent aortic diseases. In fact, we believe that standard diameter thresholds should be indexed by age (and probably to body size area and gender) to improve TBAD prediction.

Conflict of interest: none declared.

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The corresponding author of the original article [1] was invited to reply, but did not respond.

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Tipping the balance towards elective ascending aortic replacement at diameters smaller than 5.5 cm

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We read with great interest the comprehensive review by Papakonstantinou and Rorris [1] highlighting the evidence for prophylactic ascending aortic aneurysm resection at more conservative diameters than the 5.5-cm cut-off presently endorsed in the guidelines [2]. We fully agree with their statements.

Since acute dissection triggers an abrupt aortic expansion by 18–32%, a post-dissection diameter of 5.5 cm in fact correlates with a non-dissected aorta measuring ∼4.2 cm, thus rendering the 5.5-cm diameter threshold as inappropriate. Acute dissection in smaller aortas is a worryingly common phenomenon, with 59% of acute type A dissections occurring at diameters <5.5 cm in the International Registry of Acute Aortic Dissection registry [3].

There may be hesitance towards routine ascending aortic replacement at smaller diameters until concerns surrounding longer-term morbidity and survival have been addressed by larger observational studies. A more aggressive interventional approach to aneurysm resection may however be justified by the greater safety and reproducibility of contemporary elective aortic surgery performed with 'preventative' intent by experienced aortic teams under the auspices of dedicated, high-volume aortic centres. In stark contrast, outcomes of 'salvage' dissection surgery are considerably less favourable.

We now appreciate that crude diameter measurements applied in isolation do not permit accurate aortic risk prediction. Alternative geometric parameters indexed to anthropometric variables, such as the cross-sectional aortic area/patient height ratio [4], afford a more personalized assessment of aortic risk but require further validation. Meanwhile, we rely on well-established geometric indicators in the guidelines. Our group, and others, support a re-appraisal of the guideline diameter criteria, to tip the balance in favour of more proactive ascending aortic intervention at diameters <5.5 cm.

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Reply to Acharya *et al.*

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We read with interest the comment by Acharya *et al.* [1] and we would like to thank the authors for their kind words concerning our study [2].

On time prophylactic surgical management of ascending aortic aneurysms to prevent aortic dissection and/or rupture should be the absolute therapeutic goal [3, 4]. Nowadays, provided that operating on the aorta is relatively safe, we support the left shift of current guidelines on surgical threshold in case of non-syndromic, non-familial aortic aneurysms to prevent their devastating natural complications [2]. Several studies, among which IRAD study [5], which is the largest registry on aortic dissections,

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