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Balancing act: navigating the obesity paradox in AAA care to optimize patient outcomes

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Dear Editor,

We read the recent article 'Body mass index and the risk of abdominal aortic aneurysm presence and postoperative mortality: a systematic review and dose-response meta-analysis' by Wu *et al*.[1] with great interest. The study's focus on the nonlinear relationship between BMI and AAA presence and postoperative mortality is both novel and clinically relevant. It addresses a critical gap in the literature by providing a quantitative assessment of the risk, which is essential for patient counseling and surgical planning. We offer much appreciation to the authors for their contribution in presenting us with a comprehensive review. However, there are still several aspects that warrant further discussion.

First, the use of a robust-error meta-regression (REMR) model for dose–response analysis is commendable. It offers a more precise estimation of the relationship between BMI and AAA outcomes compared to traditional meta-analytic techniques. However, I would like to inquire if the authors considered the potential impact of confounding factors such as smoking status, which is known to be associated with both obesity and AAA development.

Second, some studies did not report the average BMI for each category; instead, they used midpoint or range values. Future research should employ standardized BMI measurement methods and provide the exact average BMI for each category to enhance data accuracy.

In addition, while the study revealed a nonlinear relationship between BMI and the risk of AAA presence and postoperative mortality, further exploration into the specific form and biological mechanisms of this nonlinearity may be necessary. More sophisticated statistical models could be used in future studies to explore the specific patterns of risk variation across different BMI ranges and biological markers could be integrated to understand the underlying mechanisms. Mendelian randomization might be a good option for this purpose.

I recommend that the authors suggest specific areas for further investigation, such as the impact of weight loss interventions on AAA outcomes or the role of perivascular adipose tissue in the pathogenesis of AAA.

Finally, the obesity paradox has been reported in various diseases, including cardiovascular diseases.[2] The current findings do not imply that traditional weight management principles are ineffective in AAA; instead, they highlight the more complex relationship between obesity and the development of AAA. Simply losing weight is no longer sufficient to meet clinical needs; a combination of comprehensive assessment and personalized plans is particularly important in the clinical treatment of AAA.

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Consent

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Data availability statement

All data generated or analyzed during this study are included in this article. The data are available from the corresponding author upon reasonable request.

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