

Authors' response to *Comments on "Why do emergency department clinicians miss acute aortic syndrome? A case series and descriptive analysis"*

Matthew J. Reed,^{1,2} Rachel McLatchie,¹ Sarah Wilson,³ Françoise Ticehurst,³ Kathryn Easterford,¹ Salma Alawiye,¹ Alicia Cowan,¹ Aakash Gupta¹

¹Emergency Medicine Research Group Edinburgh (EMERGE), Department of Emergency Medicine, Royal Infirmary of Edinburgh, Edinburgh; ²Acute Care Group, Usher Institute of Population Health Sciences and Informatics, College of Medicine and Veterinary Medicine, University of Edinburgh, Edinburgh; ³Emergency Department, Wexham Park Hospital, Frimley Health NHS Foundation Trust, Slough, UK

Correspondence: Matthew J. Reed, Emergency Medicine Research Group Edinburgh (EMERGE), Department of Emergency Medicine, Royal Infirmary of Edinburgh, Edinburgh, UK.
Tel.: +44(0)1312421284.
E-mail: mattreed@ed.ac.uk

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Dear Editor,

We thank Vercelli *et al.*¹ for their comments on our paper: Why do emergency department clinicians miss acute aortic syndrome? A case series and descriptive analysis.

We fully agree with the authors, that investigating the heart and aorta using POCUS may allow for an earlier diagnosis and therefore more expedient treatment of a patient with acute aortic syndrome (AAS). We would also agree with the authors that POCUS is a point of care test with good specificity for the detection of AAS (*i.e.*, it may be good at ruling in the diagnosis) but has poor sensitivity for the detection of AAS (*i.e.*, it is not good at ruling out the diagnosis).

Similar to other emergency conditions, POCUS also has a bias in that it is likely to be better at detecting AAS patients who exhibit the classic symptoms and signs of the condition, those who are sicker; and patients for whom the treating clinician has a high pre-test probability of AAS and who are unlikely to be discharged without definitive Computed Tomography Angiography of the aorta (CTA) imaging.

It is those patients who do not exhibit the classic symptoms and signs of the condition, who may be less physiologically unwell and in whom the treating clinician has a lower pre-test probability of AAS who are more likely to be misdiagnosed or to suffer delayed diagnosis. These patients are also more likely to not have findings on POCUS.

We also note that the use of POCUS to evaluate the heart and aorta is not routine in all emergency departments or countries. Whilst POCUS, where expertise to do this in a timely manner is available, is no doubt a great timely addition to the diagnostic work up, clinicians must ensure that they are not falsely reassured by a normal POCUS exam and should still consider CTA to definitely rule out the diagnosis where appropriate.

References

1. Vercelli A, Berardi E, Poggiali E. Comments on "Why do emergency department clinicians miss acute aortic syndrome? A case series and descriptive analysis". *Emerg care J* 2023;19:11433.
2. McLatchie R, Wilson S, Reed M, et al. Why do emergency department clinicians miss acute aortic syndrome? A case series and descriptive analysis. *Emerg Care J* 2023;19:11153.