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Letters

COMMENT & RESPONSE

Complexity of Diagnosing Volume Overload

To the Editor In the Rational Clinical Examination “Does This Patient Have Volume Overload?”¹ Dr Drum and colleagues synthesize evidence on bedside assessment of volume overload and highlight several clinical examination maneuvers and radiographic tests as particularly informative, including jugular venous distention (likelihood ratio [LR], 4.1), intravascular congestion on chest radiography (LR, 5.9), and pulmonary B-lines on point-of-care ultrasonography (LR, 4.0 and LR, 0.09). The magnitude of these estimates imply that they are clinically useful. But for the practicing clinician who faces the question, “Does my patient have volume overload?” the *relevant* test performance is the clinician’s own performance rather than the pooled estimate across many different clinicians who may be better or worse examiners.

For tests that require clinician technique and interpretation (eg, acquiring and interpreting B-lines on POCUS), a single LR can unintentionally imply a fixed property of the test, analogous to a laboratory assay, such as BNP.² Although test characteristics for clinicians’ diagnostic skills may ballpark the average performance, they may obscure clinically meaningful variation across clinicians.

In practice, performance can vary meaningfully with clinician skill, reflecting differences in aptitude, education, experience, and deliberate practice. For example, radiologists show substantial variation in their ability to diagnose and rule out pneumonia on chest radiography.³ Similar heterogeneity would be expected for any test requiring technical acquisition or qualitative interpretation. Given that we (all 3 authors) are not versed in point-of-care ultrasonography, we would not expect our B-line assessment to meaningfully change our pretest probability with our personal LRs being closer to 1.0.

Accordingly, for the diagnostic test findings highlighted in the article’s Table, with the exception of BNP, we ask the au-

thors to report any available data on variation in performance by clinician, and/or measures that better convey expected heterogeneity.

If such data are not available, we suggest this should be emphasized as a limitation that the reported diagnostic performance measures are summative and should not be expected to represent the performance of any particular clinician because many of us will perform substantially better (or worse) than the pooled estimate for a given maneuver.

Making clinician-level variability explicit would help readers apply these results more safely, calibrate their confidence in bedside inference, and reinforce a more aspirational message: improving diagnostic skill can improve test performance and promote diagnostic mastery.

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