Echocardiography in Patients With Enterococcal Bacteremia

TO THE EDITOR—We read with great interest the article by Bouza and colleagues on enterococcal bacteremia and the NOVA (Number of positive blood cultures, Origin of the bacteremia, previous Valve disease, Auscultation of heart murmur) score. The authors proposed a simple clinical score to rule out infective endocarditis (IE) among patients with enterococcal bloodstream infection and thus reduce the need for transesophageal echocardiography (TEE) [1]. Given the high morbidity and mortality of enterococcal IE but also the rarity of IE in patients experiencing enterococcal bacteremia, we think it is of paramount importance to help physicians decide on the need for echocardiography in such situations.

Whereas we agree with Bouza’s objectives, we have some unresolved questions about a few points of the study. First, it is unclear what data were used to calculate the proportion of the 1515 patients who did have transthoracic echocardiography. Recalculation of this proportion does not seem possible to us, as it appears as if some IE cases did not in fact undergo echocardiography. We think that a description of the Duke criteria, which were applied to classify the 65 definite IE cases, would have been of interest to the readers.

Second, the authors did not address the problem of overlap that might exist between predictor variables and their primary endpoint definition. Some independent predictors of IE that composed the NOVA score (such as heart murmur, previous valve disease, persistent bacteremia) are part of the endpoint definition—all count as Duke-Li minor or major criteria and thus far are overrepresented in IE cases. Consequently, the predictors may have been found to be associated with IE because “controls were selected from among patients with enterococcal bacteremia, negative TEE results and no criteria for IE according to the modified Duke criteria.” We think that a sensitivity analysis would have made the results more convincing. One possible approach to avoid this limitation would be to exclude all enterococcal IE cases that are definite IE and whose confirmed classification was based on the presence of Duke-Li criteria that were included in the statistical model as potential predictors of IE.

Finally, we believe it is of importance to have a clear definition of the “unknown origin of the bacteremia” item in order to apply the NOVA score. Was this condition evaluated taking into account echocardiography results?

Given these concerns, we question the current applicability of the NOVA score in patients with enterococcal bacteremia. We think that the NOVA score should be more extensively validated before being widely used.

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