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To the Editor,

We wish to comment on the paper by Zerpa et al. which recently appeared in Acta Otorrinolaringológica Española.1 This study reported on the accuracy of fine-needle aspiration (FNA) in a cohort of patients who had all been referred to surgery. This type of study design is very common in FNA accuracy studies, but it leads to biased estimates of sensitivity and specificity.2,3 The underlying bias is known as verification bias and occurs when the verification rate (gold standard) depends on the outcome of the index test (FNA). In FNA studies, positive FNA results are referred to surgery more often than negative results and, as a result, verification bias occurs in studies based on histological verification.

Verification bias causes overestimation of sensitivity and an underestimation of specificity. Statistical methods are available to correct verification bias; however, authors must report all the results from patients who received the index in order to make the correction. The study by Zerpa et al. did not report the results from the initial cohort of patients who received FNA and, as a consequence, it is not possible to estimate the bias in the reported values of sensitivity and specificity. The predictive values are unaffected by verification bias; however, predictive values depend on prevalence and must be used with caution in other contexts. Authors and reviewers need to be aware of verification bias and its impact on accuracy estimates. The STARD reporting guidelines can help reviewers identify potential sources of bias in diagnostic accuracy studies.4,5

References


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