



Incomplete validation of the Appendicitis Inflammatory Response Score

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Bucan *et al.* retrospectively validated the Appendicitis Inflammatory Response (AIR) and Adult Appendicitis Score (AAS) scoring systems for the diagnosis of appendicitis on patients that had laparoscopic exploration for suspicion of appendicitis (1). As they did not include patients that were not explored they could not estimate the scores sensitivity or true negative rate. Most of these missing patients would probably be classified as low risk. The results from the low risk zone is therefore heavily biased. I think that this should be clarified.

The negative appendectomy rate is used as primary endpoint. The authors report that macroscopically normal appendices were as a rule left *in situ*. While the removal of a macroscopic normal appendix may add time, cost and morbidity, a negative diagnostic laparoscopy is also associated with cost and morbidity and should therefore also be regarded as a diagnostic failure. The negative exploration rate should therefore also be reported.

An alternate diagnosis was found in 20% of the explorations, the majority of them did not need a surgical intervention. The authors therefore question the utility of stratification by clinical judgement alone. As the AIR score is aimed for exactly this use it would be of interest if the authors report how these cases were classified to the different risk zones? A laparoscopy could eventually have been avoided for the patients classified by the AIR score as

low risk.

The AIR score had good diagnostic properties in the high-risk zone in males, with only 3.4% negative appendectomies. At this high risk one may question the utility of imaging, as a negative result of imaging cannot rule out the need for a diagnostic laparoscopy. Some 20.5% of patients in this group still had imaging. Did imaging had any influence on the management of these high-risk patients, or did it only add cost and unnecessary delay? How many were false negative? How many could not visualize the appendix?

Unfortunately the authors miss the opportunity to validate the diagnostic performance of the AIR score in women. As the AIR score performs equally well in both sexes I think the authors need to add this information (2).

In the latest validation study of the AIR score the recommended range for low risk was changed from the original 0–4 points to 0–3 points (2). It is not clear what interval the authors used. I propose that the authors report the results of the officially recommended range.

The final diagnosis for the excised appendices is not well explained. Had all the excised appendices a histopathological examination? As the criteria needed for the appendicitis diagnosis are controversial it would be of interest if the authors report the histopathological criteria used in this study (3).

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Footnote

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