advantages of excision over ablation in long-term follow-up data from the Melbourne study [6]. Therefore, we agree with you that all the evidence needs to be available for us to make informed choices for our patients.

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Risk Factors, Clinical Presentation, and Outcomes for Abdominal Wall Endometriosis

To the Editor:

At first reading, the article by Khan et al [1] on wall endometriosis seems informative, well written, and well performed, with extensive and solid statistical analysis. However, after careful reading with the eyes of a surgeon, it seems useful to discuss the clinical importance and the relationship between surgery and statistical analysis. These comments do not apply solely to this article, but can also apply to many articles, including reports of randomized controlled trials, as discussed recently [2]. Our comments should be construed as conveying appreciation for nice analytic work, not as criticism.

The first problem is the difference between analysis of data and their clinical usefulness. According to the authors, their study is a retrospective analysis of symptoms and exams in women who underwent surgery for wall endometriosis. However nice the data, without including women who did not undergo surgery, the data do not permit estimation of false-negatives or calculation of sensitivity and specificity of a symptom or of an exam. Thus, the analysis is not very helpful for the clinician who has to decide to do or not do surgery. Clinical reality is that when confronted with a large endometriotic/painful nodule in the abdominal wall, surgical excision is the treatment of choice, obviously after imaging and other exams to rule out other pathology. The clinical decision to perform surgery should exclude pathology for which surgery is contraindicated. More frequently, however, the clinician is confronted with women with local pain in the abdominal wall without a palpable nodule. In the absence of a positive needle aspiration, the clinical questions are whether to perform surgery and, if surgery is chosen, how to find/identify the suspected abdominal wall endometriosis. We think that this limitation in clinical usefulness should be clear in the title and in the abstract; otherwise, the rapid reader risks reaching the wrong conclusion.

The second problem is the fundamental difference between statistical significance and predictive value. Statistical significance between 2 groups reflects whether the means of the groups differ, and thus significance increases with the accuracy of the estimated mean and thus with the number of observations. Significance indeed is estimated using the standard error of the mean, which is the standard deviation divided by the square root of the number of observations ($SEM = SD/\sqrt{N}$). In contrast, clinical diagnosis and prediction in the individual patient deal with the entire population, including variability as expressed by the standard deviation, not with the mean of the population. As an example, although men as a group are significantly taller than women, height is a poor predictor of sex. Thus, an obvious finding such as the observation that the clinical estimation of the size of the nodule correlates with the finding during surgery is hardly clinically relevant. This also applies to adjusted odds ratios in multivariate models.

These comments should be considered not as criticism, but rather as suggestions to more clearly delineate clinical predictive value when analyzing clinical symptoms.

Along with these comments, we have some clinical questions that might be hidden in the analysis:

- Do the authors have an estimation of the lower detection limit of the size of an abdominal wall endometriosis nodule to be felt or to be diagnosed by ultrasound or magnetic resonance imaging?
- Does this retrospective review permit suggestions how to find a presumed small nodule during surgery?

- Does this analysis permit making suggestions as to when not to perform surgery in women with suspected abdominal wall endometriosis?

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Author's Reply

To the Editor:

We thank Koninckx et al for their comments on our article. Since imaging modalities have improved, abdominal wall endometriosis and other deeply infiltrating endometriosis lesions become a topic of interest. Just in the past year, several case series have been reported on abdominal wall endometriosis [1–5].

We agree with Koninckx et al that a comment on the sensitivity and specificity of clinical examination in women with abdominal wall endometriosis from this report is not possible in the absence of a group with women with abdominal wall lesions who did not undergo surgery. We were very careful to not make these claims in our report. Our report was a case-control study comparing women with abdominal wall endometriosis and women with minimal disease. Our goal was to comment on risk factors and other clinical symptoms seen in women with endometriosis who develop abdominal lesions, and to see how they differed from those in women with common pelvic endometriosis. The goal was not to assess the sensitivity and specificity of the clinical examination as a diagnostic test.

In addition, we agree with the commenters' example of height being a poor predictor of sex. The clinical correlation between the size of the abdominal wall nodule at time of clinical exam to size at pathology was a mere observation and an important one to report, because it highlights the importance of a thorough, detailed clinical examination that can aid surgical planning and possibly eliminate the need for additional imaging in obvious cases.

Finally, to answer questions raised by Koninckx et al:

- An exact number for the lowest detection limit is difficult to determine, because it depends on several variables, most importantly the patient's body habitus and body mass index. In our series, the smallest size nodules palpated by clinical exam, ultrasound, and magnetic resonance imaging were 1 cm, 1.5 cm, and 2 cm respectively. It is important to note that this does not mean that clinical examinations were able to detect the smallest lesions. This was what we observed in our series.
- This report does not permit suggestions on how to find a presumed small nodule. It merely demonstrates a correlation between the nodule size determined on clinical examination (if the nodule is palpated) and the actual size as determined by surgical pathology.
- This review does not address the question of when not to perform surgery in women with suspicion of abdominal wall endometriosis. The study objective was to comment on risk factors, clinical presentations, and outcomes after surgery in patients with abdominal wall lesions.

We thank Koninckx et al for their interest in our report, meticulous critique, and very important questions. We look forward to studies addressing more of these questions.

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