

## Is the association found between faecaliths and right iliac fossa pain reliable?

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### COMMENT ON

**Grimes C, Chin D, Bailey C, Gergely S, Harris A.** Appendiceal faecaliths are associated with right iliac fossa pain. *Ann R Coll Surg Engl* 2010; **92**: 61–4.

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The article on appendiceal faecaliths by Grimes *et al.* has proposed a very interesting finding; however, a few points need to be discussed before acceptance of the conclusion from this study. The selection of the cases and controls is merely on the basis of presence or absence of appendiceal faecaliths but the comparability of the groups with regards to age, gender and other demographic details has not been mentioned. This makes the control selection doubtful.

A better way of ascertaining the pre-operative and postoperative pain and other symptoms in this case would have been medical records. This would have addressed recall bias introduced through telephone interview and would have made the two groups comparable. The authors have not mentioned anything about the responders of the questionnaires. A few patients might have been too young to remember anything at all introducing limitation to recall. Were surrogate responders used to address this issue?

Many potential confounders were not addressed, for example, is there another cause of right iliac fossa pain in normal appendix? Mesenteric adenitis in children<sup>1</sup> has not been addressed in this patient population. Evaluation of the operative notes and detailed histological reports would have provided information about other potential causes.

The sample size is too small and such a finding could merely result from chance rather than having a clinical implication. Moreover, measure of association in a case control study is done by computing the odds ratio.<sup>2</sup> Most of the referenced studies in the discussion are of the paediatric age group again creating bias about the comparison; moreover, these referenced studies had a small sample size making acceptance of their results difficult. Unconditional logistic regression would have been a better model to look for association between right iliac fossa pain and faecaliths which will adjust for confounders.

The conclusion by the authors that removing normal-looking appendices would reduce re-admission cannot be accepted because of the lack of proper evidence which can only be obtained by a randomised controlled trial.

### References

1. Davenport M. ABC of general surgery in children: acute abdominal pain in children. *BMJ* 1996; **312**: 498–501.
2. Daly LE, Bourke GJ. *Research methods. Interpretation and uses of medical statistics.* 2000.

### AUTHORS' RESPONSE

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The authors raise the question about demographics. The majority of the patients were young adults (M:F, 2:3; mean age, 27 years for the faecolith group: M:F, 1:5, mean age, 24 years for the non-faecolith group) and thus mesenteric adenitis is unlikely to be a significant confounding factor in this population.

The authors suggest that a better way of ascertaining pre- and postoperative pain would have been medical records. We initially tried to investigate this association using the medical records, but the records were unable to provide all the details of the length and frequency of symptoms prior to admission, or able to give details as to whether symptoms were recurrent after discharge. Thus, a telephone questionnaire was devised with responses obtained directly from the patients; 'surrogate responders' were not required.

We accept that the discussion refers predominantly to paediatric studies. This is because very few studies have been done on adults and, therefore, there is no comparison available. With respect to the points made on confounding factors and sample size, the authors will have noted that we addressed the need for a prospective, randomised, controlled trial under the sub-heading 'study limitations', and recommended that this would be the next step in investigating this.

Finally, the conclusion of our study is that appendiceal faecaliths may be associated with right iliac fossa pain, an observation which does not prove causation. As far as we are aware, this is the first study to suggest such an association in adults and, as stated, needs to be investigated further.