

PREVALENCE AND PREDICTIVE FACTORS OF HISTOLOGICALLY RESOLVING APPENDICITIS

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Aim of the study: The authors note an increasing interest in medical management of acute appendicitis. We asked how often appendicitis might potentially resolve in the absence of any treatment at all. This study investigates the prevalence of histologically resolving appendicitis at time of appendectomy in children.

Methods: Patient records were reviewed for all paediatric patients who underwent appendectomy from 2011-2015 inclusive. Appendectomy for indications other than suspected acute appendicitis were excluded. Patients were grouped, based on histopathology, as 'appendicitis', 'normal', 'other', and 'resolving'. The 'other' group were excluded from further analysis.

The subgroups were then further analysed for patient age, gender, days of symptoms before presentation, heart rate, white cell count (WCC), c-reactive protein (CRP), highest pre-operative temperature, intravenous antibiotic usage, and time until operation. 'Resolving' and 'normal' groups were compared to the 'appendicitis' group.

Main results: There were 648 paediatric appendectomies in the study group. 27 (4.2%) showed signs of resolved or resolving appendicitis. There was a significant difference in age between the 'resolving' group and the 'appendicitis' group, 13.3 vs 11.6 years (CI 1.01-1.36). There were no significant differences in the other variables.

The 'normal' group differed in gender (42% vs 63% female, $p < 0.01$), time until presentation (2.5 days vs 1.8 days, CI 1.11-1.58), WCC (10.2 vs 15.7 $\times 10^9/L$, CI 0.73-0.83), and CRP (18.9 vs 58.1, CI 0.97-0.99).

Conclusion: This study demonstrates that there is potential for resolution of appendicitis without surgery. That the 'resolving' group more closely resembles the 'appendicitis' group in terms of the variables analysed indicates that prediction of resolution is likely to be difficult. This study adds to the growing body of evidence for non-operative management of acute appendicitis in children.

NB: Approval was gained from the relevant ethics committee (approval: ETHLR.16.130).