

BJS Prize

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Antibiotics as an alternative to appendicectomy in uncomplicated adult appendicitis: analysis of a prospective, multicentre cohort study

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Aims: Recent randomised controlled trials have shown that non-operative management of acute appendicitis with antibiotics can prevent the need for surgery in 71-84% of patients within 90-days. Changes in the management of appendicitis, brought about by the COVID-19 pandemic, have allowed for this large-scale observational study, which aims to report the outcomes of operative and non-operative management of appendicitis, including non-operative management rates at 90-days.

Methods: This prospective, multicentre cohort study at 97 sites across Great Britain and Ireland included adult patients with a clinical or radiological diagnosis of appendicitis. Propensity-score matching was conducted using age, sex, BMI, frailty, co-morbidity, adult appendicitis score and CRP. Outcomes in the non-operative group were 90-day treatment failure, and in the matched groups 30-day complications and length of hospital stay (LOS).

Results: This analysis included 3420 patients, of whom 1402 (41%) had initial non-operative treatment and 2018 (59%) had operative management. The success rate of non-operative management was 80% (1116) at 90-days, with 18 patients (6%) that failed non-operative management having a histologically normal appendix. Following propensity score matching, 2444 patients were included in the outcomes analysis. In the propensity score matched groups, there was a reduction in complications in the non-operative management group compared to the operative group (OR 0.36; 95% CI 0.26 to 0.50) and a shorter median LOS (2.5 vs 3 days, $p < 0.001$).

Conclusions: Non-operative management of appendicitis is associated with fewer complications, a shorter LOS, and avoids surgery in the majority of patients.