An analysis of several studies including 404 pediatric patients suggests antibiotic treatment for acute uncomplicated appendicitis was safe and effective in the majority of patients but the risk that antibiotic treatment would fail increased in patients with appendicolith, a calcified deposit in the appendix, according to a new article published online by *JAMA Pediatrics*.

Acute appendicitis is one of the most common pediatric emergencies. Several randomized clinical trials have shown the effectiveness and safety of nonoperative treatment for acute appendicitis in adults with uncomplicated disease where an inflamed appendix is intact. But the clinical scenario of acute appendicitis in pediatric patients is different from that in adults and treatment decisions for children are more difficult.

Yuan Li, M.D., Ph.D., of Sichuan University in Chengdu, China, and coauthors conducted a meta-analysis to compare antibiotic treatment with appendectomy to treat uncomplicated acute appendicitis in pediatric patients. The meta-analysis of five studies included 404 pediatric patients (between the ages of 5 and 15) with uncomplicated appendicitis. The authors summarized the characteristics of the patients in the five studies; 168 were in the antibiotic treatment group and 236 were in the appendectomy group.

The authors report nonoperative treatment was successful in 152 of 168 patients (90.5 percent). Of the 16 patients in the antibiotic group, 11 had
an appendectomy within 48 hours and 5 patients had recurrence of appendicitis after 1-month follow-up, according to the report.

The study has limitations including that only one randomized clinical trial and four other cohort studies were included.

"This meta-analysis shows that antibiotics as the initial treatment for pediatric patients with uncomplicated appendicitis may be feasible and effective without increasing the risk for complications. However, the failure rate, mainly caused by the presence of appendicolith, is higher than for appendectomy. Surgery is preferably suggested for uncomplicated appendicitis with appendicolith," the article concludes.


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