

During the Cold War, if a sailor on an American nuclear submarine developed appendicitis, the submarine couldn't just resurface for an appendectomy. Instead the sailor was usually given a non-surgical treatment: antibiotics. Once the submarine was able to resurface, the sailor received surgery if needed. In most cases, the appendicitis resolved without surgery. Despite this, appendectomy continued to be the treatment for all cases of appendicitis. But clinical trials now show that for cases of uncomplicated acute appendicitis diagnosed by abdominal CT scan, antibiotics is a safe alternative to appendectomy as a first-line approach. However prior studies had focused on short-term outcomes, 30 days to a year. In the current issue of JAMA we report results from a five-year follow-up of patients randomized to receive antibiotic therapy in a trial comparing antibiotics to surgery in patients with acute, uncomplicated appendicitis.

The original trial was designed to test the non-inferiority of antibiotics compared to surgical management. It randomized 530 patients in Finland between the ages of 18 and 60 with CT-confirmed uncomplicated acute appendicitis to appendectomy or antibiotic therapy comprising IV ertapenem for three days followed by seven days of oral levofloxacin and metronidazole. The one year findings, reported in JAMA in 2015, failed to show that antibiotics were non-inferior to surgery, although three-fourths of patients treated with antibiotics didn't require surgery, and none of the patients who underwent surgery had complications related to waiting to perform an appendectomy.

Now let's review the 5-year results, which is what's new this week. The main outcome of the five-year study was to establish the recurrence rate of appendicitis treated with antibiotics.

The authors report that the cumulative incidence of recurrent appendicitis in the patients initially treated with antibiotics was 27% at 1 year, 34% at 2 years, 35% at 3 years, 37% at 4 years, and 39% at 5 years. 70 patients initially treated with antibiotics underwent appendectomy in the first year of the study and 30 in years 1 to 5. Of these 30 patients, only 2 had complicated appendicitis.

The authors conclude that long-term follow up of patients with CT-diagnosed uncomplicated appendicitis suggests that initial treatment with antibiotics is a safe alternative to appendectomy.

Not tired of my voice yet? If you're not and you're interested in this topic, make sure to check out the latest episode of the JAMA Clinical Reviews podcast, which I produce. It reviews the changes in patient management that have occurred over the past century, which have improved both the diagnosis and treatments for uncomplicated appendicitis. Plus, we just updated the podcast episode to include the results of this study. Subscribe at JAMA Network Audio dot com or anywhere where you get your podcasts.