PROJECT INFORMATION

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Comparing Antibiotics and Surgery to Treat Appendicitis in Children

Principal investigator

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Organization

The Research Institute at Nationwide Children's Hospital

What was the research about?

Appendicitis occurs when the appendix, a small part of the intestine, gets infected. Without treatment, the appendix can burst, and infection can spread. Two ways to treat appendicitis are surgery and antibiotics. Surgery removes the appendix, and patients have no chance of getting appendicitis again. But it may take one or two weeks to get better. Antibiotics may work to treat the infection. But if the infection comes back, patients may need surgery later.

In this study, the research team looked at how many children with appendicitis who took antibiotics did not need surgery within one year. They also compared children's quality of life and how many days of activities they missed when treated with antibiotics or surgery.

What were the results?

One year after they went to the hospital,

- 67 percent of children who took antibiotics hadn't needed surgery.
- On average, children who took antibiotics missed 7 days of activities; children who had surgery missed 11 days.
- Quality of life was not different between the two groups after one year. But children who took antibiotics had better quality of life one month after they left the hospital.

Who was in the study?

The study included 1,068 children ages 7–17. They received treatment for appendicitis at one of 10 children's hospitals in the Midwest. Of these children, 83 percent were White, 7 percent were Black, and 11 percent were another race; 10 percent were Latino. The average age was 12, and 62 percent were boys.

What did the research team do?

A doctor from the research team met with children and their caregivers in the hospital to talk about the two treatments; 370 chose antibiotics and 698 chose surgery. Children treated with antibiotics got them by IV at the hospital for at least 24 hours. They also took antibiotics for six days after they got home. Children treated with surgery had surgery within 12 hours. They got IV antibiotics before surgery to prevent infection from the surgery but not to treat appendicitis. They didn't take antibiotics after surgery.

Children and caregivers filled out surveys when leaving the hospital and one month, six months, and one year later. Surveys asked about quality of life and how many days of activities children missed after treatment. The research team looked at health records to see how many children treated with antibiotics had surgery later.

Patients, caregivers, nurses, doctors, patient educators, and health insurers helped with the study.

What were the limits of the study?

At one year, the research team could contact about three-quarters of children and caregivers. Children and caregivers chose treatment instead of treatment being assigned by chance. Children were from one area of the country, and most were White. Results may differ if more people filled out all the surveys, researchers assigned treatments by chance, or children had diverse backgrounds.

Future research could look at antibiotic treatment and surgery in a diverse group of children. Researchers

could also study the results of treatment for a longer time.

How can people use the results?

Doctors, patients, and caregivers can use these results when choosing treatment for children with appendicitis.

To learn more about this project, visit www.pcori.org/MinneCi352.