

Case Study: Gastrointestinal Disorders and Radiology

A 12-year-old female presenting with abdominal pain of unknown origin

Case Presentation

The patient presented with a three-month history of intermittent abdominal pain, diarrhea and weight loss. On physical exam, she appeared thin and demonstrated pain in her right abdomen on palpation. Lab studies demonstrated elevated serum markers of inflammation.

Radiology Consultation

Pediatric gastroenterologist Harland Winter, MD consulted pediatric radiologist Michael Gee, MD, PhD to determine which imaging test would optimally evaluate the source of the patient's symptoms. Dr. Gee advised a low-dose CT enterography to detect possible inflammatory bowel disease, the leading differential diagnosis, as well as other potential causes.

CT Imaging and Study Interpretation

Several days before the scan, pediatric imaging child life specialist Katie Weagle, MS, CCLS contacted the patient's family to ask about her interests and any special needs. She reviewed what to expect and answered questions.

At the appointment, pediatric imaging nurse MaryRae Smith, RN applied numbing cream to minimize discomfort during IV placement. She also gave the patient oral contrast mixed with her favorite sugar-free fruit beverage to improve taste. The scan was performed in less than 5 seconds.

Dr. Gee interpreted the study the same day and called Dr. Winter to report imaging features in the small intestine consistent with Crohn's disease.



Pediatric gastroenterologist Harland Winter, MD conferring with pediatric radiologist Michael Gee, MD, PhD

Clinical Management

Dr. Winter discussed the scan results with the patient and her family. A subsequent colonoscopy and endoscopy confirmed the diagnosis of Crohn's disease. Jess Kaplan, MD, director of the Inflammatory Bowel Disease Enteral Program, also met the patient to discuss enteral nutrition for which pediatric IBD nurses arranged insurance coverage. After two weeks of therapy during which the patient ingested approximately 90% of her calories from supplemental nutrition, her pain resolved and she gained five pounds.

Discussion

Drs. Winter and Gee collaborated to select the appropriate imaging study to answer the clinical question. Dr. Gee's recommendation to use a low-dose CT was reinforced by decision-support software and radiation dose monitoring systems to ensure the highest quality imaging with the lowest radiation dose. To keep radiation exposure low, Drs. Winter and Gee agreed on an MRI for the patient's surveillance study in one year.