

Foreign Body Ingestion: A Lead Pellet's Migration to the Appendix

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Background: Ingestion of foreign bodies is a common pediatric problem, occurring in more than 100,000 patients in the United States each year¹. Most cases involve children under 5 years old and, compared to adults, are accidental. Management of pediatric foreign bodies remains one of the most challenging endoscopic dilemmas faced by pediatric gastroenterologists². Determining the indications and timing for intervention requires assessing patient size, type of ingested object, time since ingestion, and presenting clinical symptoms². Metallic objects, such as lead pellets, pose potential toxicity risks. Migration of ingested foreign bodies to the appendix is rare and can complicate retrieval efforts, as in our patient.

Case Presentation: A 2-year-old previously healthy male presented after swallowing a metal pellet at home, confirmed on initial KUB. He was initially admitted under the surgical team where a sedated endoscopic retrieval failed. Pediatric Gastroenterology recommended a GoLytely cleanout, which was supplemented with liquid glycerin suppositories, fleet enemas, daily dulcolax, positional changes during cleanout, and a high-fiber diet for four days without success. Serial two-view abdominal radiographs initially suggested object progression but ultimately indicated retention of the foreign body near the ileocecal junction. The pellet was visualized in the appendix on fluoroscopy, thus prompting a diagnostic laparoscopic appendectomy. The appendix was surgically removed and opened post-appendectomy with confirmation of the pellet within (**Figure 1**). Lead levels, obtained on presentation and three days into cleanout, were elevated to a max of 4.8 ug/dL (reference range 0-3.4 ug/dL). Follow-up testing for lead toxicity was down-trending, measured at 2.7 ug/dL a few weeks after discharge.

Discussion: Once in the appendix, peristalsis is insufficient to expel a foreign body into the cecum³. When endoscopic or conservative treatment measures fail, laparoscopic appendectomy must be considered^{3,4,5}. Some cases of lead-based appendiceal retention can be asymptomatic, as in our patient, while others can cause acute appendicitis⁶. Prolonged retention increases the risk of lead poisoning, which can result in severe brain and CNS damage, especially in young children, as they absorb 4-5 times more ingested lead from a given source than adults. Our case highlights a common pediatric presentation complicated by the rare possibility of appendiceal retention and the risk of lead toxicity. The management of pediatric foreign bodies remains one of the most challenging endoscopic dilemmas faced by pediatric gastroenterologists. While clinical practice guidelines provide some guidance for clinicians, cases like ours serve as a reminder to consider more invasive methods of foreign body removal, particularly when there is a high risk of toxicity.



Figure 1. Lead pellet visualized within appendix status-post laparoscopic appendectomy.

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