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Magnetic Bead Ingestion in a Pediatric Patient: Imaging and Management

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1 CASE PRESENTATION

A 2-year, 3-month-old boy presented to the emergency department with a suspected history of ingesting multiple magnetic beads. Initially, he remained asymptomatic but later developed intermittent abdominal pain, which resolved spontaneously. An initial abdominal radiograph revealed a total of 23 magnetic beads—5 located in the stomach and 18 in the sigmoid colon (Fig 1). Given the risk of bowel perforation due to magnetic attraction, the patient was admitted for close observation and treated with laxatives. The following day, a repeat abdominal x-ray showed no obvious movement of the magnetic beads (Fig 2), despite the patient remaining asymptomatic.

2 DIAGNOSIS: FOREIGN BODY INGESTION OF MULTIPLE MAGNETIC BEADS

Gastroscopy was performed, and 5 magnetic beads were identified in the stomach—3 adhered to the lesser curvature and 2 lodged posteriorly, causing a superficial ulcer (Fig 3). All magnetic beads in the stomach were successfully removed via endoscopy. On the third day of hospitalization, the remaining 18 magnetic beads in the sigmoid colon were naturally expelled in the stool.

Foreign body ingestion involving multiple high-powered magnets can result in intestinal necrosis, fistula formation, volvulus, perforation, or obstruction because of interloop attraction. In a multicenter cohort study of 574 children, 9.6% developed intestinal perforation or other life-threatening

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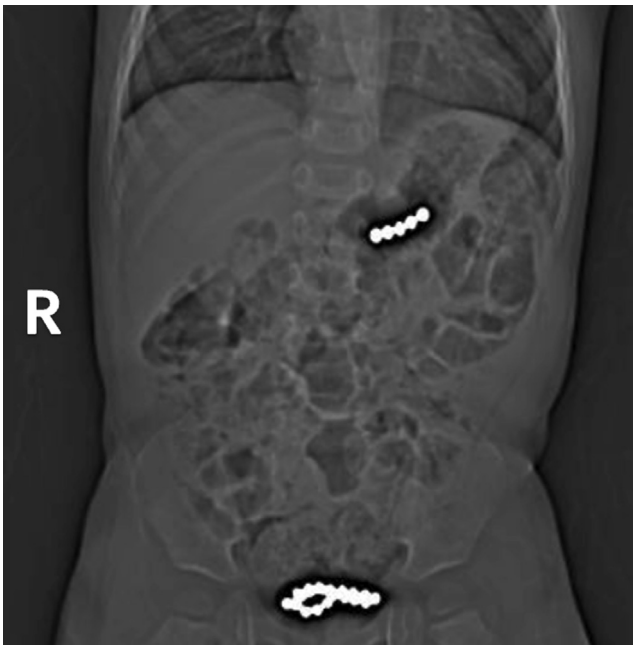

FIGURE 1. Initial abdominal radiograph showing multiple radiopaque magnetic beads in the stomach and a cluster of beads in the sigmoid colon, confirming foreign body ingestion.

FIGURE 2. Repeat abdominal x-ray on the second day demonstrated no significant movement of the magnetic beads.

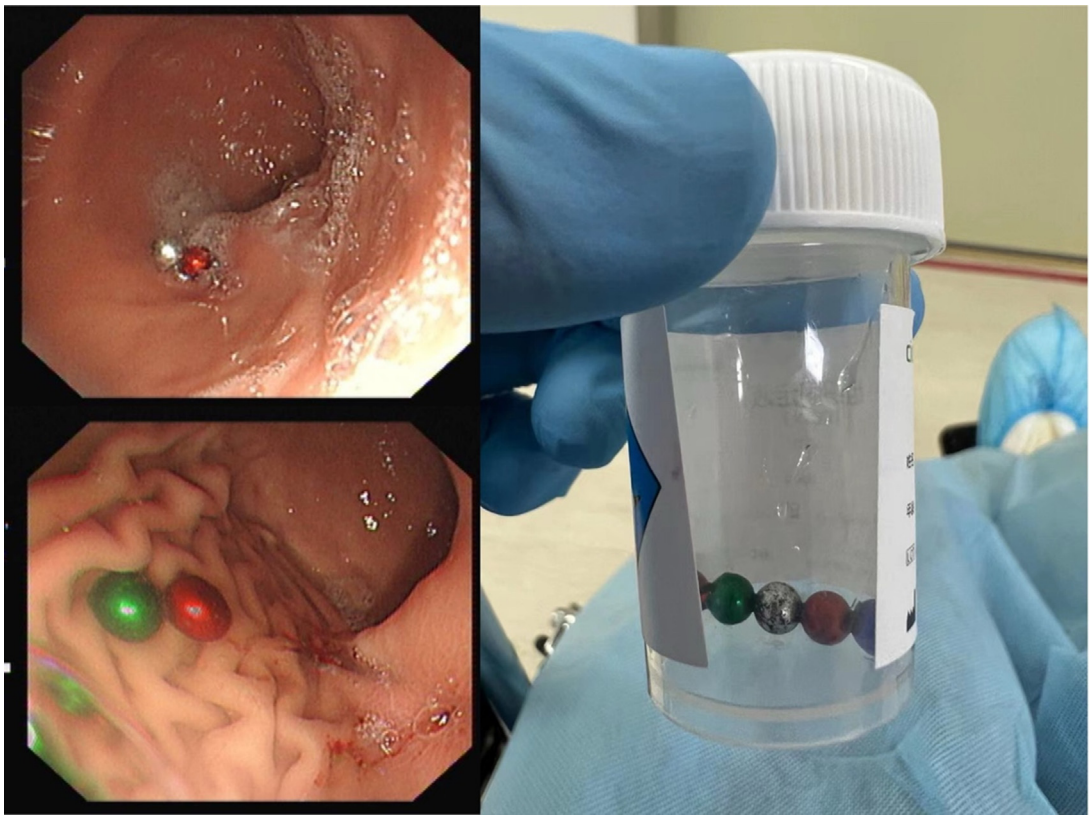

FIGURE 3. Endoscopic view revealed 5 magnetic beads in the stomach, with 3 adhered to the lesser curvature and 2 lodged posteriorly, causing mucosal injury.

complications.[1] Prompt imaging and a multidisciplinary approach are critical for preventing serious outcomes. Gastric magnets should be removed endoscopically, whereas colonic magnets require close observation or surgical intervention if symptomatic.[2,3]

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CONFLICT OF INTEREST

All authors have affirmed they have no conflicts of interest to declare.

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