Fellows’ Corner

Ingestion of Multiple Magnets

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CASE PRESENTATION

An 11-year-old girl presented to the emergency department with epigastric abdominal pain and nausea that began nine days after she ingested four small high-power spherical magnets. Physical examination was within normal limits. Abdominal X-ray revealed four magnets attached to one another in the left upper quadrant. On upper endoscopy, a single magnet was found adherent to the posterior gastric wall that did not move with gentle pressure (figure 1). Abdominal CAT scan demonstrated four magnets lying in a linear configuration within in the body of the stomach extending into the rugal folds into the posterior gastric walls (figure 2). The patient subsequently underwent a laparoscopy that demonstrated perforations in the stomach and duodenum with the four magnets lying in a newly formed gastro-duodenal fistula. After the magnets were successfully removed, the fistula and the perforations were repaired. The patient’s post-operative course was uneventful.

Questions

1. How do you manage multiple magnet ingestion in children?

2. What are the possible complications of multiple magnet ingestion in children?

DISCUSSION

Adolescents use magnets to mimic body piercings (i.e., tongue and nose), which can lead to unintentional inhalation or ingestion. In the case of a single magnet ingestion, spontaneous passage will likely occur. Multiple magnets pose a unique hazard since they can attract each other through the bowel walls, leading to such complications as pressure necrosis, ulceration, perforation, fistula formation, obstruction and, in rare cases, volvulus and possibly death. Endoscopic removal is needed in about 10-20% of cases of magnet ingestion; however, more concerning is that approximately 1% of cases necessitate operative management for intestinal obstruction or perforation.
The U.S. Consumer Product Safety Commission has launched a magnet awareness program. Additionally, the North American Society of Pediatric Gastroenterology, Hepatology, and Nutrition has taken the initiative to increase awareness among parents and physicians of the dangers of magnet ingestion. We also encourage pediatricians to counsel patients at each visit about the risks of magnet ingestion as part of routine anticipatory guidance. Everyone should be aware of the serious consequences of these ingestions so that treatment can occur in an expeditious manner.

References