



Figure 1. Abdominal radiograph done at the time of admission showed rounded radiopaque magnetic balls forming a loop in the right lower abdomen. Air-filled dilated intestinal loops with a paucity of gas shadows in the lower abdomen.



Figure 2. Enhanced CT of the abdomen and pelvis with contrast. There are multiple metallic objects adjacent to each other in the small bowel located at the level of L3-L4, quality of study greatly degraded by artifacts. Visualized solid viscera and osseous structures are unremarkable. No free air in the abdomen.

Discussion

A foreign body is common in children below the age of 3 years but can occur in older children and adults [1]. The majority of the foreign bodies pass through the gastrointestinal tract with only 1% requiring surgical removal [2]. The foreign bodies that compress the trachea also pose a great danger and may compromise the airway. Batteries were considered to be the potential threat for intestinal perforation and necrosis, but recently the reports have suggested that magnetic toy ingestion should be considered as hazardous as alkali batteries [3–5]. A small single magnet passes through the gut easily, but multiple magnets produce a considerable amount of force, which pulls the intestines together compromising the blood supply leading to necrosis, gangrene, and perforation [6–8].

A history of foreign body ingestion should be enquired in children presenting with vomiting and abdominal pain persisting for more than a few days in an otherwise healthy child. The ultrasound should be the first modality in such cases. If the ultrasound is not conclusive, then an abdominal X-ray should always be done [9,10].

In this case, the child was taken to different hospitals, and ultrasound was inconclusive while an abdominal X-ray was missed during the evaluation. The X-ray done at the time of admission was suggestive of foreign body ingestion. CT scan can be avoided in the presence of typical history and X-ray findings. In this case, the history of foreign body ingestion was lacking, which emphasizes the fact that kids should not be left unobserved while playing with magnetic balls, and the history of PICA should always be brought into the notice of family physician for further management. MRI has little value in the presence of typical X-ray or CT scan evidence of metallic object ingestion.

Conclusion

This case study highlights the fact that leaving kids unobserved while playing, especially with a history of Pica, can have serious consequences.

Awareness should be created among parents about the dangers of the ingestion of magnetic balls. Persistent vomiting and abdominal pain should always raise concerns and should be evaluated by ultrasound as the first modality. If it is inconclusive, then an abdominal X-ray or CT scan should be done.

What is new?

Battery ingestion has been known to be notorious in causing intestinal obstruction in the past. Nowadays, magnetic toys have gained popularity among kids, and cases have been reported in the literature, where magnetic toy ingestion has caused serious intestinal consequences requiring surgical intervention. We report a similar case that was misdiagnosed as acute gastroenteritis and gastritis, and it took 2 weeks to establish a final diagnosis. Parents were unaware of the ingestion.

List of Abbreviations

CT Computed tomography

Consent for publication

Written informed consent was taken from the patient's family.

Ethical approval

Ethical approval is not required for publishing an anonymous case report in our institution.

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Summary of the case

1	Patient (gender, age)	Female, 4 years
2	Final diagnosis	Intestinal obstruction due to magic ball (magnetic toy) ingestion
3	Symptoms	Vomiting and abdominal pain
4	Medications	IV fluids, analgesics
5	Clinical procedure	Laparotomy
6	Specialty	Pediatrics/Pediatric surgery