



## A Rock in My Gut: The Medical Challenges of Deliberate Stone Ingestion

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### Abstract

Foreign body ingestion is common in children, but this report details an unusual case of a 3-year-old boy who swallowed over 300 pebbles, totaling about 1500 grams. The child presented with a history of abdominal discomfort, food refusal and constipation, and thorough examination confirmed the presence of foreign bodies. These foreign bodies (gravel and stones) had accumulated in the entire colon over a period of 8 to 12 months. A conservative approach was adopted, utilizing proctoclysis enemas and oral laxatives to aid in natural passage. The largest stone was measured 2.9 cm x 1.7 cm. Within four to six days, all stones were successfully expelled without complications, and the child was discharged in good health, highlighting the effectiveness of non-surgical management in such cases.

**Keywords:** Foreign Body; Lithobezoar; Managed Conservatively; Stone Ingestion

### Introduction

Foreign body ingestion is common in children, with most cases resolving spontaneously, though up to 1% may lead to complications like intestinal perforation [1]. This report describes a rare case of a 3-year-old boy who ingested over 300 pieces of gravel stones.

### Case Presentation

This report details the case of a 3-year-old boy from rural Bangalore, India, presenting with abdominal discomfort, food refusal, and constipation for 4-5 days. He had no associated vomiting, rectal bleeding, oliguria, or signs of peritonitis but had a history of frequent earth-eating (pica) since the age of two.

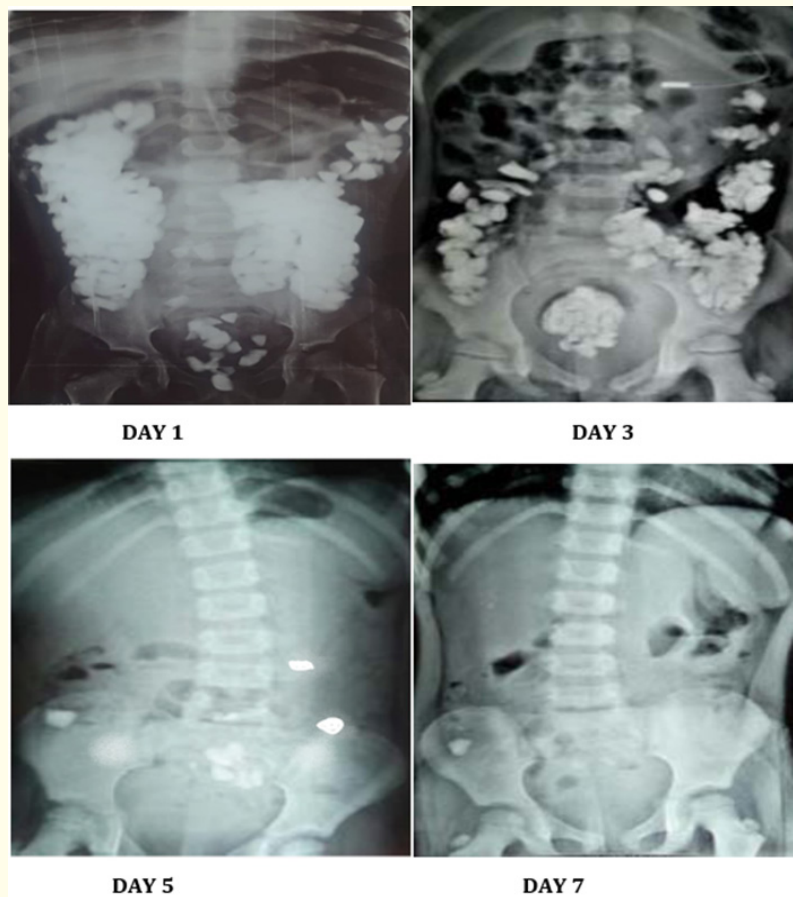
On admission, he appeared stable, with mild abdominal tenderness and moderate distension. There was a palpable lump in the right side of abdomen extending from right iliac fossa and approaching towards the right hypochondric region. Similar type of another lump was palpable in the left side of lower abdomen in the left iliac fossa. Its lower border was not palpable. Bowel sounds were audible, with no hyperperistaltic character. There was mild generalized tenderness over the abdomen. Gravel stones were palpable rectally. Other systems were normal on clinical examination.

Detailed clinical examination revealed mild pallor with hemoglobin at 9.02g/dL, a low BMI of 5.5, and a packed cell volume (PCV) of 30.2% and total leukocyte count (TLC) was normal at 9,600 cells/mm<sup>3</sup>, with 74.5% neutrophils. His electrolyte status and urine output were normal.

Abdominal X-ray images shows multiple, well-defined radiopaque (white) objects scattered throughout the large intestine, visible from the region of the caecum on the right side to the rectum in the lower pelvis. These radiopaque objects appear to be gravel or stones, likely ingested by the patient, as they fill the colon bilaterally and extend downwards towards the rectum, as shown in figure 1.

Such a finding is consistent with a case of "lithobezoar," which is an accumulation of ingested stones or gravel within the gastrointestinal tract. This condition is extremely rare and can result in abdominal pain, constipation, or obstruction. The distribution of these stones across the large intestine suggests that the stones have moved partially through the gastrointestinal tract but have not yet been entirely expelled.

The X-ray findings also indicate the importance of close monitoring to ensure that all stones pass naturally or, if necessary, with



**Figure 1:** Serial x-rays abdomen from day 1 to day 7 showing evacuation of bowel.

medical assistance to avoid complications like intestinal obstruction or perforation.

A proctoscopy further revealed a rectum densely packed with gravel, causing slight mucosal ulceration and edema. The attending surgeon initially attempted a gravel washout using enemas, which dislodged some stones. Due to persistent abdominal distension, an abdominal ultrasound (USG) was performed, showing a distended colon and rectum. Colonoscopy revealed gravel and stones dispersed along the colon mucosa, with aggregates primarily in the ascending and descending colon.

The child was treated conservatively with antibiotics, oral laxatives, and repeated proctoclysis enemas. Over the next 4-5 days, he passed significant quantities of gravel and stones in his stools, although he developed a low-grade, continuous fever from days 2 to 5. Antibiotics, analgesics, and laxatives were continued, and daily stool monitoring and abdominal X-rays showed gradual gravel and stone reduction. A urine culture showed no bacterial growth. On

day 6, with only minimal gravel and stones remaining and fever resolved, an X-ray confirmed the absence of radio-opaque bodies, indicating successful clearance of the colon. Gravel with stones passed progressively over five to six days, with X-rays confirming complete clearance. The child excreted over 300 pebbles, totaling about 1500 grams, with the largest stone measuring 2.9 cm × 1.7 cm as shown in figure 2. The boy's appetite improved, and he was discharged in stable condition, asymptomatic, and free of abdominal distension.

A follow-up colonoscopy conducted one week post-discharge was clear of gravel and stones but revealed the presence of worms, for which deworming treatment was initiated. At discharge and follow-up, the abdominal distension had resolved, and the child showed no signs of pica recurrence. This case highlights the successful management of extensive foreign body ingestion with a conservative approach, demonstrating complete recovery without surgical intervention.



**Figure 2:** Excretion of >300 pebbles from day 1 to day 7 conservatively.

## Discussion

Foreign body ingestion is a common occurrence in children [2]. Around 37% of children under five occasionally consume soil or small particles, often linked to pica or psychiatric conditions. However, lithobezoar ingestion, or the consumption of stone masses, is extremely rare, particularly over an extended period [3]. This case is distinctive and reportable due to the patient's unusual, prolonged pattern of gravel ingestion, starting at just 1 year old, and presenting an atypical clinical course not frequently documented in medical literature.

Young children are known to swallow a variety of objects-coins, seeds, pebbles, and toy parts are among the most common items. Ingestions are often accidental but can be intentional, particularly in children with psychiatric or developmental challenges, where recurrent ingestion may be observed. Parents or caregivers typically seek medical assistance after witnessing the event or noticing an object has gone missing.

While many children are asymptomatic, some display symptoms such as drooling, gagging, difficulty swallowing, pain during swallowing, loss of appetite, food refusal, fever, nausea, vomiting, rectal bleeding, or abdominal pain. Respiratory symptoms such as cough, wheezing, and distress may also occur. Generally, foreign bodies that reach the stomach pass through the gastrointestinal tract without complication, with only a 1% risk of perforation. However, the passage and complication risk depend largely on the physical characteristics of the ingested object, such as its size, shape, and texture [4]. Endoscopic removal is necessary in 10% to 20% of for-

ign body (FB) ingestion cases, with surgical intervention required in approximately 1%, depending on the FB's characteristics-such as its shape, size, number, and location [2,3]. However, most cases are managed conservatively, allowing the FB to pass naturally through the gastrointestinal tract. For radio-opaque foreign bodies, plain radiographs of the chest and abdomen are valuable tools for tracking the FB's position and progress within the gastrointestinal system.

## Conclusion

In conclusion, foreign body ingestion rarely results in complications like bowel perforation, and most cases resolve spontaneously, with the foreign body either passing naturally or migrating without symptoms. Surgical intervention should be reserved for cases where conservative management fails or if the foreign body causes symptoms indicative of gastrointestinal obstruction or perforation.

## Funding

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## Conflict of Interest

None declared.

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