

## Geophagia: A cause of distal large bowel obstruction in a Sudanese woman

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### ABSTRACT

**Objective:** Geophagia is defined as the craving and deliberate consumption of dirt, soil, or clay that is practiced sometimes by pregnant ladies, mentally handicapped, or people with iron deficiency anemia. This disorder is seen frequently in people who are native to Africa all around the world. A grave surgical complication can result from the presence of this foreign material inside the intestine notably intestinal perforation, and obstruction

**Case:** A 34 years old female present with features of distal large bowel obstruction three weeks post-delivery underwent exploratory laparotomy were obstructing piece of clay was found, the patient confirmed after surgery a heavy consumption of river shore clay during the pregnancy.

**Conclusions:** The patient experienced an uneventful postoperative course, oral intake allowed by the third postoperative day, and the patient was discharged home on the fifth postoperative day. Follow-up at one month after surgery show a clean healed wound with no complaints.

**Keywords:** Pica, Colon, Sigmoid, Obstruction

### INTRODUCTION

Geophagia is defined as the craving and deliberate consumption of dirt, soil, or clay that is practiced sometimes by pregnant ladies, mentally handicapped, or people with iron deficiency anemia (1). This disorder is seen frequently in people who are native to Africa all around the world (2).

The etiology of pica and its subset Geophagia is controversial. There is likely more than one factor involved, including nutritional and psychological factors.

The exact prevalence of Geophagia is difficult to determine because patients often present with complications, which represent a small fraction of the big problem.

A grave surgical complication can result from the presence of this foreign material inside the intestine notably intestinal perforation (3), and obstruction (4, 5).

### CASE

A 34 years old Sudanese lady present to the emergency department three weeks following an uneventful vaginal delivery with a complaint of increasing abdominal pain and distension, few episodes of vomiting, and absolute constipation for four days before admission, she denied any fever, with the initial assumption by the patient to be a delivery-related complication.

The patient was hemodynamically stable with a blood pressure of 120/70, the pulse rate: 95/min, respiratory rate: 18/min, temperature: 37.2 °C. Abdominal examination reveals a hugely distended abdomen with striae gravidarum and linea nigra, no previous scar with intact hernia orifices. Soft abdomen on palpation, with resonant percussion note all over the abdomen and exaggerated bowel sounds. Digital rectal examination shows an empty rectum.

Complete blood count, electrolytes, and chemistry were all normal. Erect and supine abdominal x-rays are done and show features of distal large bowel obstruction.

### Case Report Article

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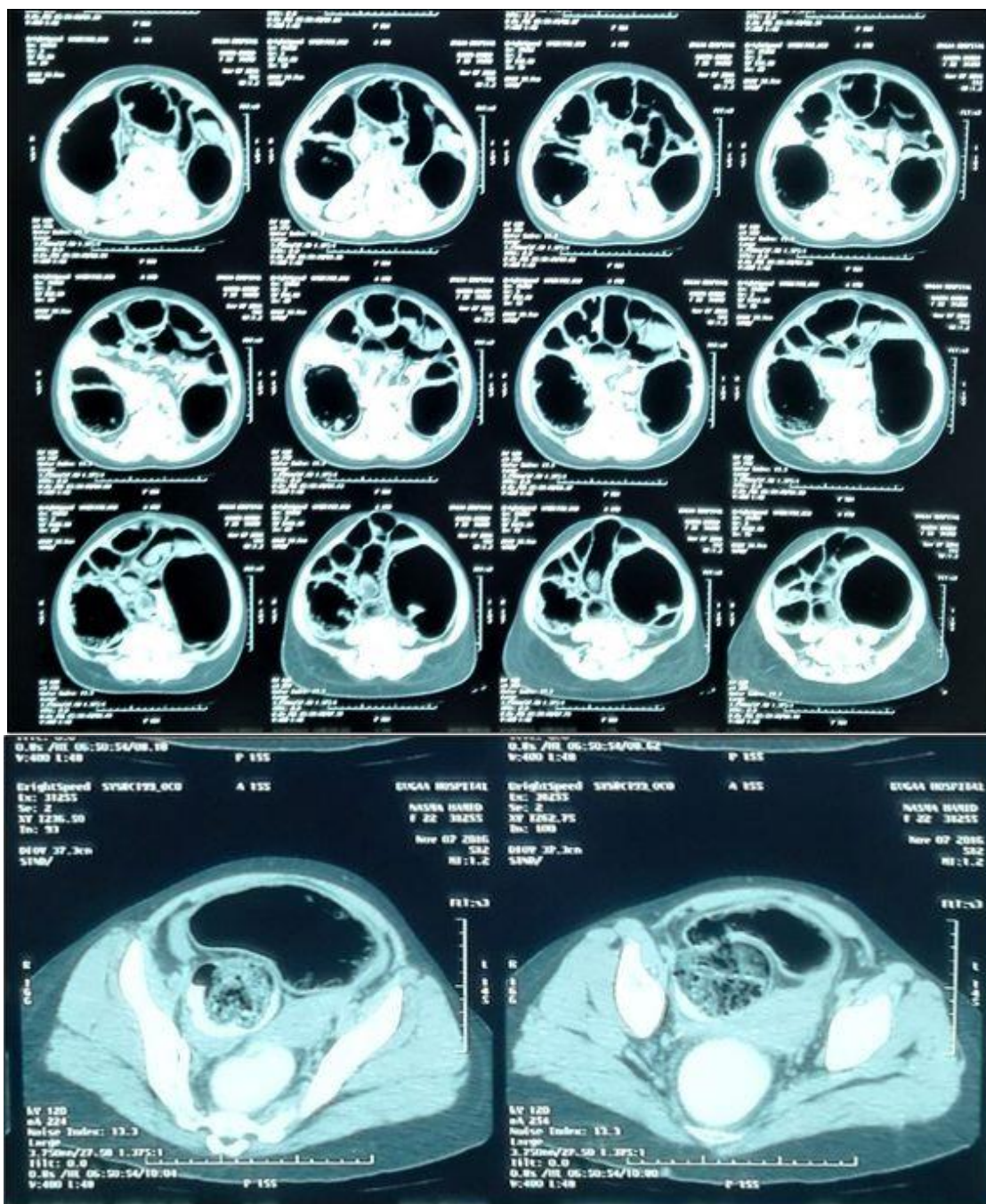
Plain computed tomography scan of the abdomen confirmed a large bowel obstruction with distal sigmoid colon intraluminal dense mass 10 cm in length and 5 cm in width assumed to be an impacted fecal mass initially (**Figure 1**).

The patient was admitted, started on intravenous fluids therapy, decompression with a nasogastric tube, and rectal wash with cleansing enemas.

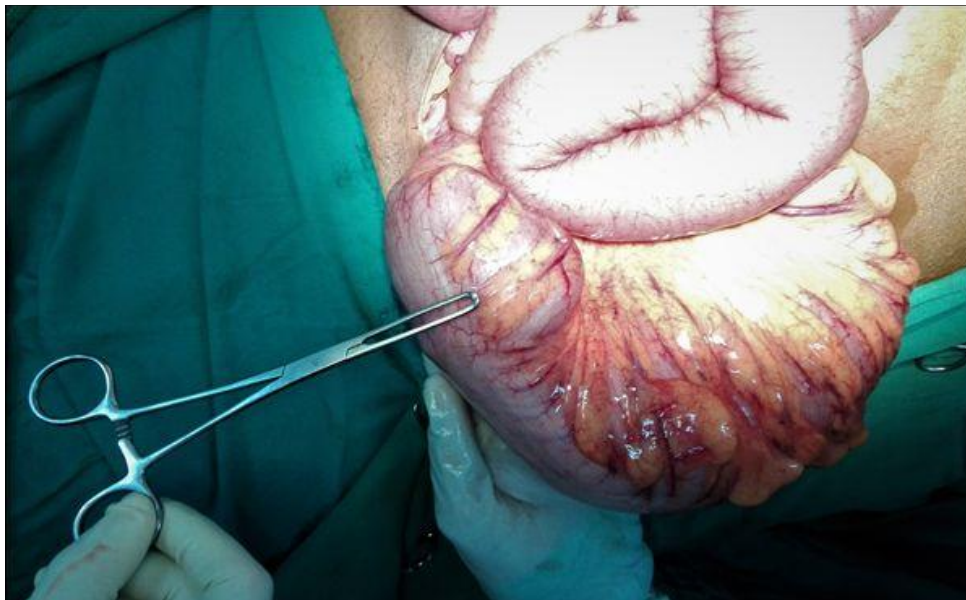
Trial of fecal evacuation with proctoscopy done but fail to reach the obstructing lesion due to high-seated position. A Gastroenterologist consulted for possible colonoscopy and trial of extraction but he was reluctant due to severe intestinal distension and fear of perforation. Reassessment done after 24 hours show a failure of conservative measures with expected risk of bowel perforation, so decision taken for operative exploration.

The patient was prepared and the abdomen introduced through a lower midline incision. A previously image noted intraluminal obstructing mass confirmed at the distal sigmoid colon (**Figure 2**).

Firm to hard in consistency and not moldable or amenable for milking distally. Proximal enterotomy was performed and the dense intraluminal mass was extracted in piecemeal and found to be a condensed piece of clay. The proximal bowel looks healthy and no other pathology could be identified. Enterotomy closed in two layers and the abdomen closed in order. The patient experienced an uneventful postoperative course, oral intake allowed by the third postoperative day, and the patient was discharged home on the fifth postoperative day. Follow-up at one month after surgery show a clean healed wound with no complaints.



**Figure 1:** CT scan of the abdomen shows a dilated colon with distal sigmoid intra luminal obstructing lesion.



**Figure 2:** Intraoperative picture showing the obstructing clay mass at the distal sigmoid.

## DISCUSSION

A retrograde history taking confirms the consumption of a large amount of river shore clay by the patient, a known habit practiced by pregnant Sudanese ladies and a known form of pica (6, 7).

A spectrum of complications can result from pica habit including electrolyte disturbance like hypokalemia, parasitic infestation, iron deficiency anemia, heavy metal poisoning, intestinal perforation, and obstruction (1).

The exact etiology of surgical complication is not clear but hypothesized to be due to chronic accumulation of hard dry material with subsequent mucosal injury and possible anaerobic bacterial infection (8). Colonic perforation is thought to be the result of the increased luminal pressure and diminished vascular supply of the colonic wall (3).

A diagnostic difficulty may present as the patient is reluctant to inform about their pica habits out of shame or due to underestimation of the seriousness of the condition as in this case where the patient criminate her recent delivery as a cause of her symptoms.

## CONCLUSION

A variety of surgical management is available dictated by the level of the obstruction and the general condition of the patient. Enemas, rectal irrigation, or mechanical extraction Trans anal may be valid options for low impactions (rectosigmoid) in minimally symptomatic patients. Surgery with or without resection or diversion may be needed in others (9)

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**Ethical issues:** All authors declare originality of research. Informed consent has been obtained from the patient.

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