



Case Report

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Phytobezoar Within Meckel's Diverticulum Presenting With Partial Intestinal Obstruction



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ABSTRACT

Introduction: Meckel's Diverticulum (MD) affects approximately 2% of the population. Phytobezoar is defined as a vegetable and fiber-based ball in the gastrointestinal tract. We report a rare case of phytobezoar within MD presenting with partial intestinal obstruction.

Case Reports: We hereby present a 20-year-old man who referred to the Emergency Department of a hospital with a two-day history of nausea, vomiting, abdominal pain, and constipation. He underwent a midline laparotomy with surgical exploration, which revealed an MD 60 cm proximal to ileocecal valve containing phytobezoar. Histopathology reported the extracted specimen as an MD without ectopic tissue.

Conclusion: Meckel's diverticulum can be affected by bezoars as well as other parts of the gastrointestinal tract. We recommend that phytobezoar within MD be considered among differential diagnosis of bowel obstruction.

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Introduction

Affecting nearly 2% of the population, Meckel's Diverticulum (MD) is the most common malformation of the gastrointestinal tract resulted from incomplete regression of the vitelline duct [1, 2]. MD is categorized as a true diverticulum as it contains all layers of the intestine [3]. Most cases of MD are asymptomatic and are usually found accidentally during abdominal exploration [3]. When complicated, MD is usually presented with rectal bleeding in children, while perforation and obstruction are the most common presentations in the adult population [4]. Phyto bezoar is defined as a vegetable, and fiber-based ball in the gastrointestinal tract resulted from undigested materials [5]. We report an interesting and rare case of phyto bezoar within Meckel's diverticulum presenting with partial intestinal obstruction.

Case Reports

We hereby present a 20-year-old man who referred to the Emergency Department of Firoozgar Hospital, Tehran City, Iran, with a two-day history of nausea, vomiting, abdominal pain, and constipation. He had no significant past medical or surgical history. Also, his family history was not remarkable. His pulse rate, respiratory rate, blood pressure, and temperature were within the normal range. The biochemical test results were normal except a mild leukocytosis. Complete physical examination showed no other signs except periumbilical tenderness without rebound and a mod-

erately-distended abdomen. The patient underwent plain upright and supine abdominal x-ray imaging, which showed multiple air-fluid levels with distended small bowel loops (Figure 1).

Besides, a spiral abdominal Computed Tomography (CT) scan was performed, indicating the evidence of mechanical obstruction in loops distal to the ileum and multiple mesenteric lymph nodes.

So, the patient was transferred to the operating room with the implication of partial intestinal obstruction. He underwent a midline laparotomy with surgical exploration, which revealed an MD 60 cm proximal to ileocecal valve containing phyto bezoar. Segmental resection, as well as enterotomy and decompression, was done at the site of MD. Histopathology reported the extracted specimen as an MD without ectopic tissue. The patient was discharged after sustained bowel function for four days. A monthly follow-up showed no significant complications.

Discussion

The complication rate of Meckel's Diverticulum (MD) ranges from 4% to 16%, according to previous studies [2, 6]. Small bowel obstruction, malignant transformation, volvulus, intussusception, perforation, and hemorrhage are among the most commonly reported complications. All of these complications are unspecific, making the pre-operative diagnosis challenging for physicians. MD complications usually mimic the



Figure 1. Upright abdominal x-ray showing air-fluid levels and distended intestinal loops

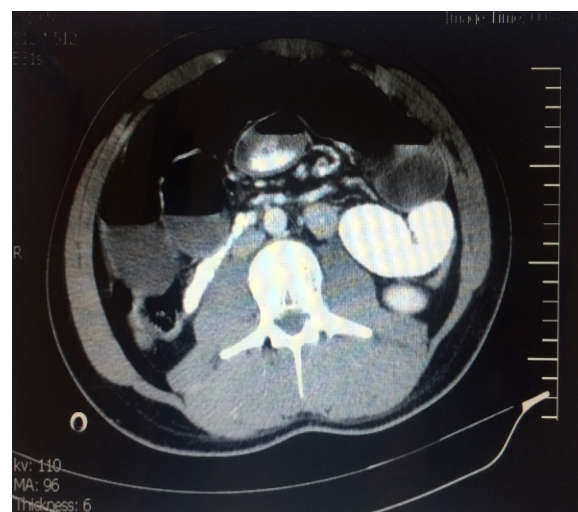


Figure 2. Computed Tomography (CT) scan indicating the evidence of mechanical obstruction in loops distal to ileum and multiple mesenteric lymph nodes

imaging and clinical findings of other acute abdominal conditions [2].

The presented case was finally diagnosed with phytobezoar within MD, which partially obstructed the small intestine. Phytobezoar is defined as a vegetable and fiber-based ball in the gastrointestinal tract, which is resulted from undigested materials [5]. Feeding habits, such as excessive consumption of vegetables, are predisposing factors for phytobezoar formation [5]. Also, the presence of MD lowers the bowel motility and peristaltic waves at its site, which works as an accelerating factor [7]. Our patient was not a vegetarian, but he used to eat many fruits and vegetables daily. Except for excess consumption of vegetable fibers, other predisposing factors for bezoar formation are poor mastication, previous gastric surgery, hypothyroidism, and delayed gastric emptying due to diabetes.

Based on a review in PubMed, the first report of phytobezoar within MD was published in 1960 by Hamburger [8]. This condition is infrequent as there are few similar reports in the literature [9-12]. In most of these cases, the patients had been treated by laparotomy; however, some previous reports had mentioned the laparoscopic approach as a safer and more effective method [13]. In the present case, clinical and imaging findings were consistent with small bowel obstruction, but the precise diagnosis was not made. After laparotomy, the involved section was resected and repaired with an end-to-end anastomosis. Meckel's diverticulum is a possible cause of small bowel obstruction, especially in adults. MD can be affected by bezoars as well as the other parts of the gastrointestinal tract. We recommend that physicians consider the possibility of phytobezoar within MD among differential diagnosis of bowel obstruction, especially in previously healthy adult patients with a high vegetarian diet.

Ethical Considerations

Compliance with ethical guidelines

All ethical principles were observed in this article and the written informed consent was taken from patient.

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Conflict of interest

The authors declared no conflict of interest.

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