Case Report

"SMALL BOWEL OBSTRUCTION DUE TO MECKEL'S DIVERTICULUM"

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Abstract: Meckel's diverticulum is the most prevalent congenital abnormality of the gastrointestinal tract. This lesion is found in 1–3% of the general population. Of those lesions that are found incidentally, males and females are equally affected. In this case patient was diagnosed with mechanical intestinal obstruction.

Keywords: Elderly, Intestinal obstruction, Meckel's diverticulitis, Vitellointestinal duct.

Introduction: The etiology for the majority of small bowel obstruction in elderly results from postoperative adhesions, malignancy and hernia[1]**.** Meckel's diverticulum is the most common congenital anomaly of the gastrointestinal system. It originates from failure of the vitelline duct to obliterate completely, which is usually located on the antimesenteric border of the ileum. Its incidence is between 1% to 3%. Meckel's diverticulum occurs with equal frequency in both sexes, but symptoms from complications are more common in male patients. Most of the Meckel's diverticula are discovered incidentally during a surgical procedure performed for other reasons. Hemorrhage, small bowel obstruction, and diverticulitis are the most frequent complications[2-4]**.** Histologically, heterotopic gastric and pancreatic mucosas are frequently observed in the diverticula of symptomatic patients. Involvement of the vitello intestinal band of the diverticulum is rarely seen. This case report presents a case of small bowel obstruction due to vitellointestinal band of a Meckel's diverticulum in an elderly.

Case Report: A 71 year-old male with no previous abdominal surgery, presented with severe abdominal pain and vomiting since three days. His abdomen was very tender, distended and bowel sounds were hyperactive. No lump was palpable. There was no significant medical history and his body temperature was normal. Laboratory findings showed leukocyte count of $15x10^9$/L, hemoglobin 13 gm/dl and platelet values were 276,000/cu mm. All other investigations, including electrolytes and urinalysis were within normal limits. The erect abdominal plain X-ray showed dilated loops of small bowel, with no free air under either diaphragm. The patient was

diagnosed with mechanical intestinal obstruction. The patient was admitted in the surgical ward with initial management of intravenous fluid resuscitation, nasogastric tube insertion and catheterization. Over the next 12 hours the patient's vital signs remained stable. To identify the cause, computerized tomographic imaging of the abdomen with oral contrast was performed which revealed dilated loops of small bowel with a stricture in the ileum and collapse of the distal ileum and large bowel.

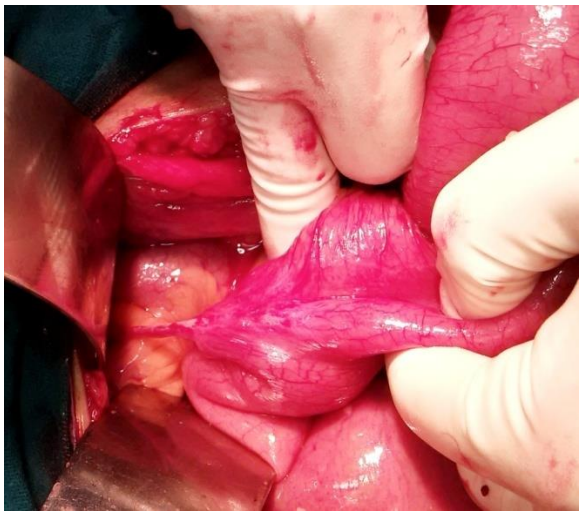

Fig-1: Vitellointestinal band from diverticulum

As the etiology of the stricture remained unidentified, exploratory laparotomy was performed under general anesthesia. On entering the peritoneal cavity, gross distension of the small bowel and collapse of the large bowel was identified. The small bowel was subsequently delivered carefully and examined. Loops of distended small bowel were identified extending proximally from the duodenojejunal junction to the distal ileum. The proximal part of the ileum was found to be markedly compressed by the vitellointestinal band **[Fig-1]**. Jejuna and ileal loops were dilated at the superior part of the mechanical obstruction. The obstruction was caused by trapping of a bowel loop by a vitellointestinal band. After separating the band from the parietal peritoneum, the ileal loop was released **[Fig-2]**. Resection of the Meckel's diverticulum with closure of the bowel was performed **[Fig.3,4]**.

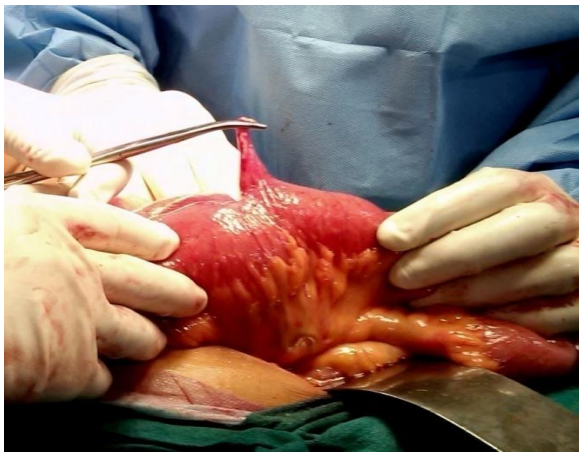

Fig-2: Vitellointestinal band divided from peritoneal wall

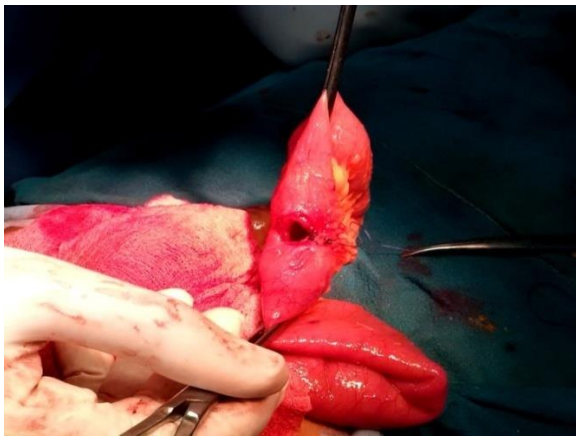

Fig-3: Ileum after excision of diverticulum.

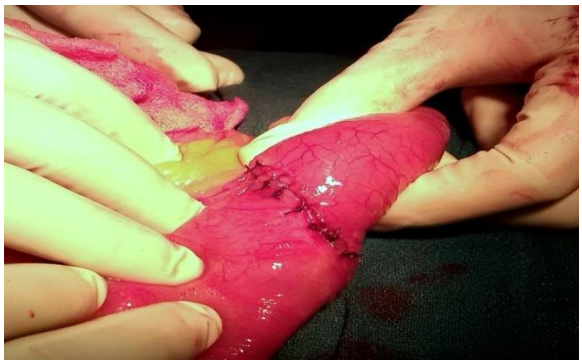

Fig-4: Repair of ileal defect.

The loops of the bowel were then returned into the abdomen in sequence. Closure of the abdomen was performed using loop sutures. The diverticulum was confirmed as Meckel's diverticulum by histopathological examination. The patient recovered without any complications and was discharged after 14 days of hospitalization.

Discussion: Meckel's diverticulum was originally described by FabriciusHildanus in 1598 and named after Johann Friedrich Meckel, who established its embryonic origin in 1809. Meckel's diverticulum is the most common congenital anomaly of the small intestine, with a prevalence of approximately 1-3%, and is a true diverticulum containing all layers of the bowel wall. The average length of a Meckel's diverticulum is 3 cm, with 90% ranging between 1 cm and 10 cm, and the longest being 100 cm. This diverticulum is usually found within 100 cm of the ileocaecal valve on the antimesenteric border of the ileum. The mean distance from the ileocaecal valve on, as well as by an extension into a hernia sac (Littre's hernia)[5]. Similarly, as in our case, obstruction can be caused due to trapping of a bowel loop by a mesodiverticular band. The important aspect of our case is clear demonstration of the mesodiverticular band of a Meckel's diverticulum. Various imaging modalities have been used for diagnosing Meckel's diverticulum. Conventional radiographic examination is of limited value. Although of limited value, sonography has also been used for the investigation of Meckel's diverticulum. High-resolution sonography usually shows a fluid-filled structure in the right lower quadrant having the appearance of a blind-ending, thick-walled loop of bowel[6]. On computed tomography (CT), Meckel's diverticulum is difficult to distinguish from normal small bowel in uncomplicated cases. However, a blind-ending fluid or gas-filled structure in continuity with the small bowel may be revealed[7]. Abdominal CT is used for complicated cases such as intussusception. CT can help to confirm the presence of intussusception and distinguish between lead point and non-lead point intussusceptions[8,9]. In asymptomatic patients; whether all cases of incidental Meckel's diverticula should be resected or not is an unresolved question. On the other hand, for the symptomatic patients, treatment should always include resection of the diverticulum or the segment of the bowel affected by the pathology.

Conflict of interest: All authors have none to declare.

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