

A Gastrointestinal Stromal Tumor With Bizarre Appearance In Meckel's Diverticulum

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Abstract:

Meckel's diverticulum is the most commonly encountered congenital anomaly of the small intestine, occurring in approximately 2-4% of the population. Sometimes Meckel's diverticulum harbors neoplasms. A 55-year-old gentleman, with a recent history of admission and evaluation for hematochezia, presented with a pelvic mass. On exploratory laparotomy, it turned out to be a gastrointestinal stromal tumor (GIST) arising from Meckel's diverticulum. Neoplasms occurring from Meckel's diverticulum, even though rare, should be considered as a differential diagnosis of pelvic masses arising from the bowel, wherever imaging modalities fail to give a definitive diagnosis, and segmental resection of the small bowel should be considered as treatment.

Keywords: GIST, Meckel's diverticulum, hematochezia, segmental resection

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I. Introduction:

Meckel's diverticulum is the most common anomaly of the gastrointestinal tract. It is usually asymptomatic, but approximately 4% are symptomatic with complications such as bleeding [1]. However, cases exist where tumors such as gastrointestinal stromal tumors (GIST) are found in the resected specimen of asymptomatic Meckel's diverticulum [2]. We report a case of Meckel's diverticulum in a patient with a recent history of hematochezia with an unknown source. Pathological examination of the resected segment of the small bowel revealed a GIST within Meckel's diverticulum.

II. Case Presentation:

We present a 55-year-old man who, on the occasion of gastrointestinal bleeding, was hospitalized in another hospital, where prior medical evaluation including upper and lower endoscopy revealed no identifiable source. A blood transfusion was performed because of (Hb - 74g/l). In February 2024, he was hospitalized in the GE department of the Oncological Hospital Shumen for diagnostic investigation. After imaging, a tumor formation (Fig. 1) was found in the right half of the pelvis with characteristic features most likely indicating GIST. Family history - grandmother with carcinoma of the stomach. He was planned for surgical treatment. Hg at admission was 116g/l. After laparoscopy and revision of the abdominal cavity we encountered a small bowel tumor with a bizarre appearance and dimensions of 6/7 cm, proceeding from the anti-mesenteric side of the small intestine, approximately 60 cm from the ileocecal valve, without near and distant metastases. Having in mind results and tumor dimensions from the CT, we did minilaparotomy 6 cm. The engaged loop was extracted (Fig.2) and segmental small bowel resection performed with T-T manual one-layer primary anastomosis. The postoperative course was uneventful.

Pathological findings: A tumor formation with a bizarre appearance and a diameter of 6 cm. with a central cystic defect. Morphological result: tumor proliferation in the small intestinal wall of a Meckel's diverticulum, represented by spindle cells and epithelioid cells with atypism, hemorrhages with areas of organization and necroses. Immunohistochemical markers: CD117 - diffuse perinuclear "dot-like" expression in tumor cells. SMA and CD34 - without expression in tumor cells. S100 - membrane and cytoplasmic expression in single tumor cells totaled about 1% of the tumor parenchyma studied and in nerve elements. Ki67 - 5%. Morphology and immunophenotype of gastrointestinal stromal tumor. Diagnosis: Gastrointestinal stromal tumor of the ileum in Meckel's diverticulum T3 N0 M0 (Mitotic index: AFIP-6A).

III. Discussion:

Bleeding is a usual clinical manifestation of Meckel's diverticulum. Tumors found in Meckel's diverticulum are rare (0.5-3.2%), with carcinoid being the most common. The possible explanations for bleeding include tumor necrosis and tumor invasion into the muscularis propria, replacing the gut wall. In a large series of

1476 cases at the Mayo Clinic, Park et al. report the most common presentations of symptomatic Meckel's diverticula in adults to be bleeding [3]. The standard surgical treatment of symptomatic Meckel's diverticula is diverticulectomy, unless the indication for operative management is the presence of a tumor, in which case segmental resection of the ileum that includes both the diverticulum and the adjacent ileal loop should be performed. This presentation is provocative with the bizarre appearance of the tumor and that very few cases have been reported of patients developing GIST tumors in Meckel's diverticulum. It is not known enough about the behavior of GIST tumors as most occur at random. In the majority of GIST tumors within Meckel's diverticulum, patients remain asymptomatic until the tumor grows larger than 5 cm [4]. Tumors greater than 5 cm and with a high mitotic count are with a poor prognosis. GIST removal solely without adjuvant therapy is known to have a greater risk of recurrence if associated with: male sex, large tumor, high mitosis count, non-gastric origination, or perforation [5].

IV. Consent:

Written informed consent was obtained from the patient for the publication of this case report and any accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal. Financial support and sponsorship Nil. Conflicts of interest There are no conflicts of interest.



Fig.1 CT scan

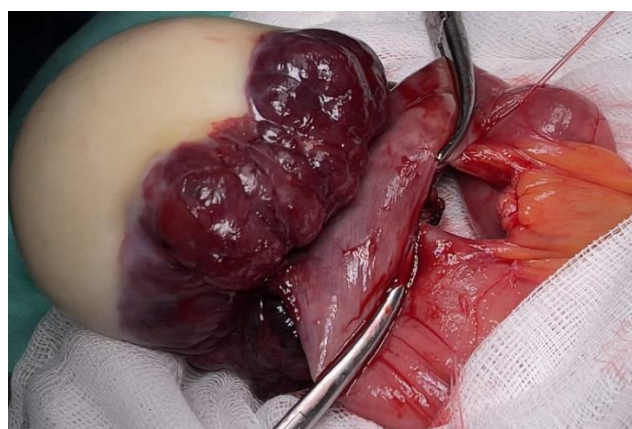


Fig.2 Specimen

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