Asian Journal of Case Reports in Surgery

11(4): 1-4, 2021; Article no.AJCRS.74108

Mesenteric Fibromatosis Presenting as an Unusual Cause of Intestinal Obstruction and Anemia in a Young Male

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

Article Information

Editor(s):
(1) Dr. Ashish Anand, GV Montgomery Veteran Affairs Medical Center, USA.
Reviewers:
(1) Owais Ahmed Patel, India.
(2) Sharath A, India.
Complete Peer review History: https://www.sdiarticle4.com/review-history/74108

Case Report

Received 30 June 2021
Accepted 10 September 2021
Published 11 September 2021

ABSTRACT

A twenty-three-year-old male presented with on and off abdominal pain for two months with an acutely distended abdomen. He had a hemoglobin level of 6.5, and a CT scan showed a non-enhancing nodular mass compressing the small bowel with proximal distension. After resecting the mass at the mesenteric root and right hemicolectomy, the specimen was confirmed as mesenteric fibromatosis on histopathological examination. This is a rare case of mesenteric fibromatosis presenting as intestinal obstruction and anemia.

Keywords: Hemicolectomy; Intestinal obstruction; Mesenteric fibromatosis; Nodular mass.

1. INTRODUCTION

Mesenteric Fibromatosis (MF) is a proliferative fibroblastic lesion of the small intestinal mesentery and constitutes 8% of all desmoid tumors, representing 0.03% of all neoplasm [1]. It is histologically benign but may invade locally and recur after excision. MF is a locally

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aggressive tumor that lacks metastatic potential, but the local recurrence is common [2]. There is a wide age range of patients, 14-75 (mean, 41 years) of MF presentation with no gender or race predilection [3]. Thirteen percent of patients with mesenteric fibromatosis have familial adenomatous polyposis (FAP), specifically, the Gardner syndrome variant of FAP [3,4]. The presenting clinical signs and symptoms of mesenteric fibromatosis are often related to the small bowel. Patients may complain of abdominal pain or a palpable abdominal mass or come to clinical attention because of complications such as gastrointestinal bleeding, small bowel obstruction, fistula formation, or bowel perforation [3,5]. This case report aims to present a rare case of Mesenteric fibromatosis diagnosed in a twenty-three-year-old male presenting with intestinal obstruction and anemia. Operating an abdominal tumor can be tricky, and the mass was widely excised. The mass and the adnexal tissue were sent for histopathological examination to confirm the diagnosis and know the extent of the tumor. Desmoid tumors, including MF, can be a differential in patients with chronic abdominal pain and distension. A high index of suspicion can promote early diagnosis and appropriate management. Patients should be sent to screening for FAP.

2. CASE REPORT

A twenty-three-year-old male presented with on and off abdominal pain for two months. The pain increased after meals, and he complained of decreased appetite. The patient had a surgical history of acute intestinal obstruction due to intestinal tuberculosis, with ileotransverse bypass done in 2008. On examination, the abdomen was soft, tender, and distended with dilated loop and visible peristalsis. He was pale and had multiple firm nodules over his body. A contrast-enhanced CT scan (Fig 1) of the abdomen and pelvis showed a fairly large non-enhancing matted nodular mass seen in the mid-abdomen causing encasement of mesenteric tributaries suggesting mesenteric lymphadenopathy forming mantle. The mass was compressing the small bowel segment, mostly the ileal loop, which was thick-walled and had evidence of gross dilation of the proximal ileal loop (Fig 2). Other routine labs were normal except hemoglobin which was 6.5.

Surgical resection of the mass was planned via exploratory laparotomy. A 20×20-centimeter mass was identified at the root of mesentery involving superior mesenteric artery with terminal ileal closed-loop obstruction (Fig 3). Enbloc resection of the mesenteric mass with right hemicolectomy was performed, and the mass was sent for histopathology study (Fig 4).

Multiple mesenteric mass sections on histopathology showed a fibroproliferative process involving mesentery and reaching into the intestinal wall. The lesions showed proliferative but bland spindle-shaped cells arranged in fascicles and whorls with scant mitotic figures (Fig 5). Cells had small vesicular nuclei, scanty cytoplasm, and densely collagenous stroma (Fig 6). The study concluded the diagnosis of MF. The patient care was continued with appropriate antibiotics, analgesics, IV fluids, and the post-op period was uneventful. Later, the patient was referred to the department of Oncology and Gastroenterology for further screening and management. The final diagnosis of isolated Mesenteric fibromatosis was made.

3. DISCUSSION

Differential diagnosis of abdominal pain and distension in a young male span from congenital causes, infection, and obstruction due to various reasons. Mesenteric Fibrosis is a rare proliferative disease of the mesentery. The majority of patients with MF remain clinically asymptomatic, with little or no focal symptoms until later in their course, when they complain of abdominal pain and discomfort, constipation, vomiting, and organ compression symptoms, such as small bowel obstruction and hydronephrosis [6]. Complications of MF include gastrointestinal bleeding, small bowel obstruction, fistula formation, or bowel perforation [3].

In the literature, the most common presentation of MF was chronic abdominal pain. A case of twenty-nine-year-old presented as swelling in the right side of the umbilicus for six months associated with dull ache for two months [1]. Another case of a forty-four-year-old female presented as epigastric pain for the preceding two weeks [2]. MF can occur as young as an eleven-year-old boy who presented with low-grade fever, decreased appetite, and mass in the right iliac fossa. This pediatric patient presented similarly to our patient, including anemia [7].

MF shows a varied malignant potential and can be confused with Gastro-Intestinal Stromal Tumor (GIST), clinically and radiologically; a

misdiagnosis might result in inappropriate therapeutic decisions and a worse prognosis [2]. Hence it is essential to detect MF early before local and distant invasion for a better prognosis.

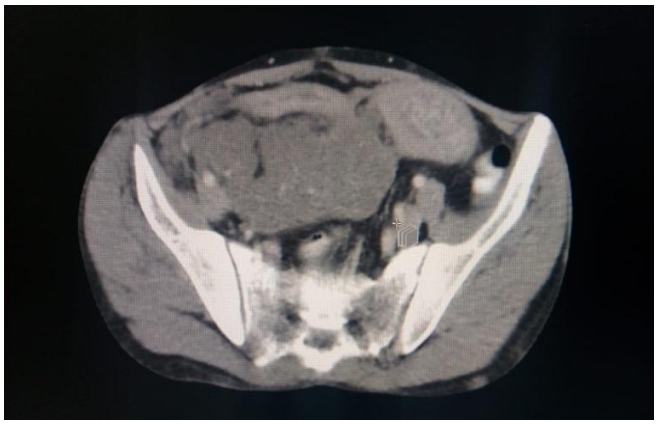

Fig. 1. CT abdomen showing large non enhancing matted nodular mass seen in mid abdomen

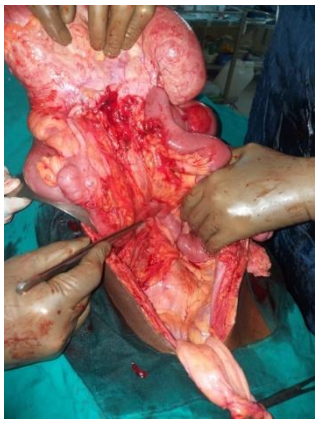

Fig. 2. Mesenteric mass lifted from IVC, Aorta along with right colon

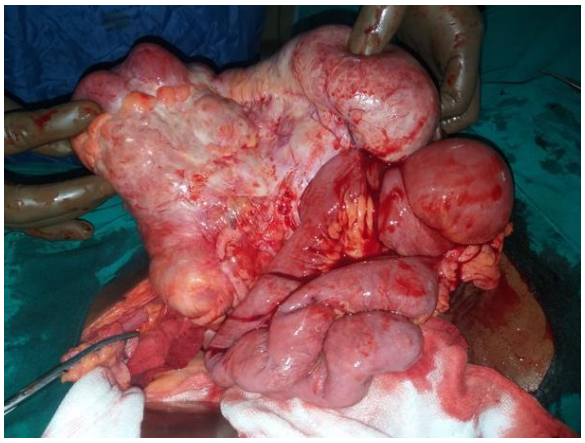

Fig. 3. Mass in mesentery near right colon involving superior mesenteric vessels

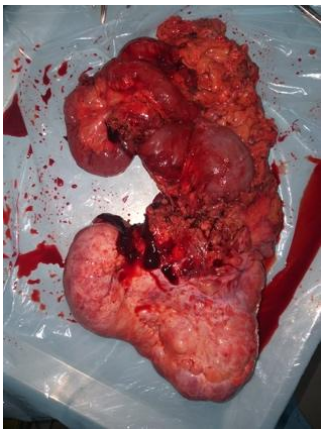

Fig. 4. Mesenteric mass specimen sent to histopathology

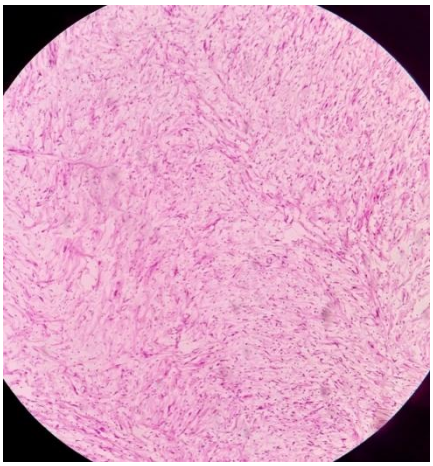

Fig. 5. Proliferative bland spindle-shaped cells arranged in fascicles and whorls

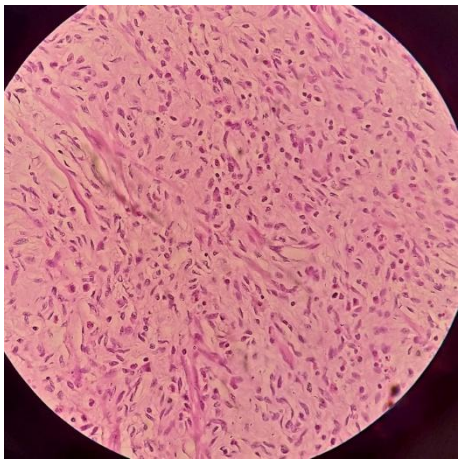

Fig. 6. Bland spindle cells with small vesicular nuclei, scanty cytoplasm and stromal collagenous bands

Wide field surgical excision is the first-line treatment and the gold standard for most mesenteric fibromatosis [8]. Recurrence after only surgical excision is high at 40-70% [9]. Radiotherapy and chemotherapy can be used as adjuvant treatment for MF depending on the tumor's aggressiveness or the local or distant involvement. Radiotherapy can reduce the recurrence to 20-40% [9]. Additional tests of colonoscopy advised to rule out polyps as MF is associated with FAP, Gardner variety.

4. CONCLUSION

Mesenteric fibromatosis is a rare cause of abdominal distension and intestinal obstruction in young patients. Including the differential of MF in young patients with chronic abdominal symptoms can warrant early and appropriate intervention. Histopathological examination is helpful to confirm the diagnosis & differentiate from GIST and other abdominal tumors. Early diagnosis and surgical excision remain the gold standard but still have a high recurrence rate. The importance of publishing a case of isolated MF is to emphasize its inclusion in the differential diagnosis of chronic abdominal pain and distension in young patients.

ETHICAL APPROVAL

As per international standard or university standard written ethical approval has been collected and preserved by the author(s).

CONSENT

As per international standard or university standard, patients' written consent has been collected and preserved by the author(s).

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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Peer-review history:
The peer review history for this paper can be accessed here:
https://www.sdiarticle4.com/review-history/74108