Cavernous hemangioma of mesentery involving the jejunum causing intestinal obstruction in an adult male

Srijana Thapa[1], Udaya Koirala[1], Bijendra Joshi[1], Anish Baniya[2], and Bidushi Pokhrel[2]

[1]Kathmandu Model Hospital
[2]Hospital for Advanced Medicine and Surgery

February 22, 2024

Abstract

We present a rare case of 45-year-old man with complaints of abdominal pain and features suggestive of intestinal obstruction. CT scan of the abdomen demonstrated a large mesenteric mass in the pelvic region involving the distal segment of jejunum. Surgical excision of the lesion and histo-pathological examination confirmed cavernous hemangioma.

INTRODUCTION

Hemangiomas are benign tumors and can be present in any part of the body. The most common sites are skin, face, scalp and back with presentations involving other organs like liver, spleen, central nervous system, adrenal glands and mediastinum being frequent. However, gastrointestinal hemangiomas are uncommon.[1,2] There is no gender predominance and the age of presentation varies from 2 months to 79 years.[3] Gastrointestinal symptoms can vary according to the location, the most common symptom being per rectal bleed.

We present this case as cavernous hemangioma being an unusual but potential cause of intestinal obstruction where the diagnosis was uncertain even after resection of the mass. Due to its rarity, diagnosis is often delayed.11 Resection of the lesion is the definitive treatment. This case has been reported in line with the SCARE criteria.[4]

CASE REPORT

A 45-year-old male presented in the emergency department with generalized abdominal pain for 4 days with multiple episodes of vomiting for one day. He reported not having any bowel movement for 3 days followed by four episodes of watery stool on the day of presentation. There was no history of melena or hematochezia. The patient had a smoking history of 3 pack-year. There was no history of tuberculosis. Previous medical, surgical as well as drug history was unremarkable.

On examination, the patient's blood pressure was 110/80 mm Hg with heart rate of 88 bpm. The abdominal examination revealed uniform distention and tenderness was elicited on deep palpation with no obvious mass, resonance on percussion and the bowel sounds were hyperactive. The hernial orifices were intact and the scrotal examination was unremarkable. The digital rectal examination showed empty rectum. Rest of the systemic examination was unremarkable.

On initial presentation, the patient's hemoglobin was 14.8 mg/dl with WBC counts of 15200/mm^3 and C-reactive protein (CRP) of 27.2 mg/dl. The radiographic examination of abdomen demonstrated distended jejunal loops (Figure 1). Ultrasonography was performed which showed distended bowel loops but revealed no other specific findings. The patient first opted for conservative management with intravenous fluids, antibiotic, gastric decompression and urinary catheterization. Even after the initial management, his symptoms aggravated with increasing abdominal distension and discomfort, therefore a CT-scan of the abdomen was

performed. The CT demonstrated a large mesenteric mass measuring 12cm × 6.7cm in the pelvic region, encasing the long segment of distal jejunum with minimal circumferential enhancement and thickening of the jejunal wall (Figure 2).

Figure 1.Abdominal X-Ray showing distended jejunal loops.

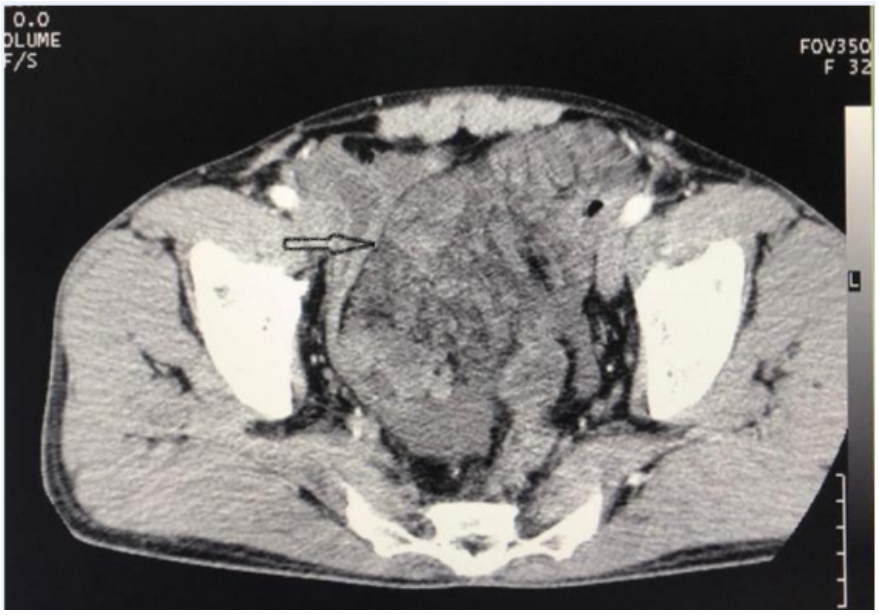

Figure 2.CT showing huge mesenteric mass in the pelvic area as shown by the arrow.

An exploratory laparotomy was performed which revealed a large multi-nodular mesenteric mass, bluish-purple in color and extending into the lumen of jejunum. The involved jejunum was about 180 cm from the duodeno-jejunal flexure and had multiple polypoidal yellowish lesions which apparently had caused complete obstruction of the lumen (Figure 3). The mesenteric mass along with the affected part of jejunum was resected and a side-to-side jejuno-jejunostomy was performed. A 24 Fr abdominal drain was placed.

The post-operative pain management was done with epidural anesthesia and chest physiotherapy along with incentive spirometer was started on the first postoperative day itself. The abdominal drain was removed on 7^{th} post-operative day. The patient had no complications during his entire duration of stay. The following histopathological report showed features compatible with cavernous hemangioma (Figure 4). His follow-up visits after one month and one year were unremarkable.

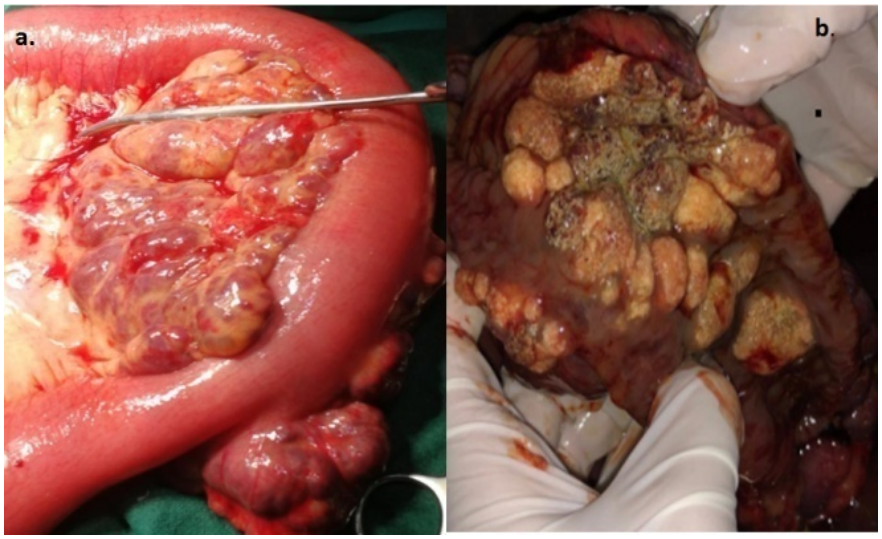

Figure 3. a) Gross findings of the mesenteric mass on lapartotomy. b) Cut section after incising the lumen of jejunum demonstrating multiple, yellowish nodular lesions circumferentially involving the jejunum causing complete obstruction of the lumen.

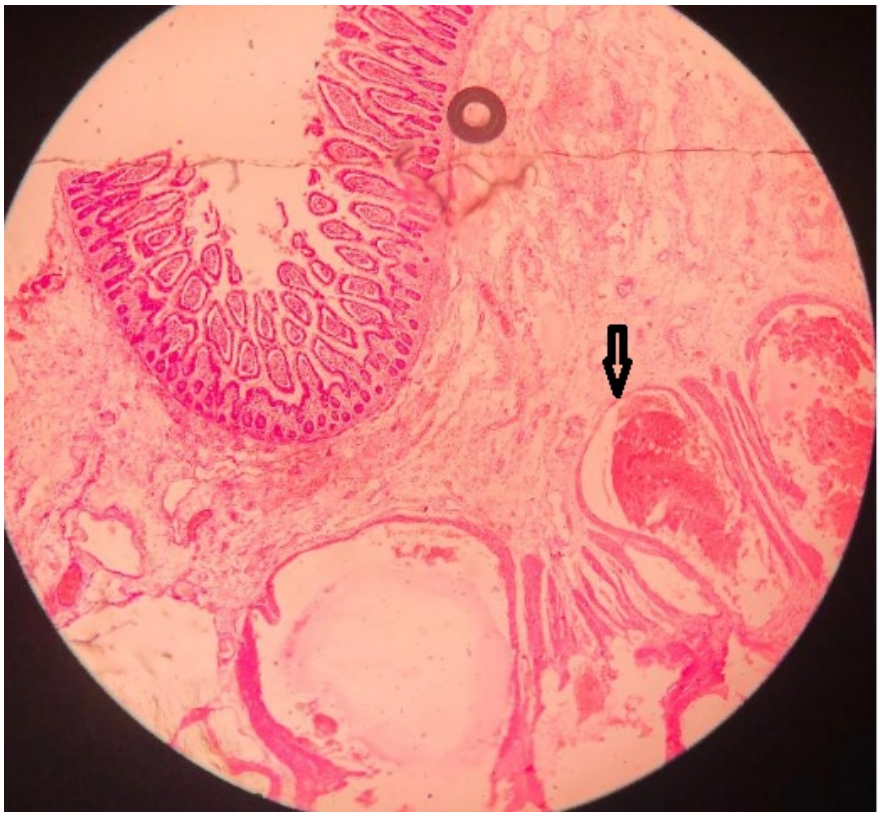

Figure 4. Numerous thin walled vascular channels lined by endothelium with RBCs inside the lumen of the dilated channels as shown by the arrow.

DISCUSSION

Cavernous hemangiomas are hamartomatous vascular tumors derived from mesoderm. They are formed secondary to dilatation of the capillary walls.[2] Even though gastrointestinal hemangiomas are infrequent, there have been cases where hemangiomas have been reported in rectum,[5] recto-sigmoid junction,[6]small bowel and mesentery,[3] lesser omentum[7] and gastro-splenic ligament.[2] The most frequent occurrence of gastrointestinal hemangioma is in the small bowel followed by the colon.[6] Our patient presented with features of intestinal obstruction but in general, the presentation can vary according to the site of the mass. It commonly presents with per-rectal bleeding but can also present with acute or chronic blood loss, melena, anemia, abdominal pain, dyspepsia, perforation or intussesption.[8]

Abrahamson and Shandling have divided gastrointestinal hemangiomas into three types, capillary, cavernous and mixed.[8]Microscopic examination of cavernous hemangioma shows large dilated thin walled vessels with blood filled spaces. Cavernous hemangiomas are the most common type of hemangiomas affecting the mesentery.[8] Yang et. al have reported hemangioma of cavernous and venous mixed type involving only the mesentery.[1] In cases where both the mesentery and bowel are affected, identifying the origin of the hemangioma is difficult.[3] Similarly, in our case, it was difficult to establish the origin of the hemangioma.

The diagnosis of mesenteric hemangiomas can be challenging and sometimes definitive diagnosis is only established on histopathology. However, CT and MRI are useful modalities for diagnosis. CT scan usually

demonstrates non-homogeneous enhancement of lesion with transmural thickening of walls of the intestine involved.[9] In our case, CT was suggestive of huge mesenteric mass with distal jejunal wall thickening. The MRI findings are high signal intensity lesion on T_2 weight sequences and low intensity on diffuse weighted MR image.[10] MRI was not performed in our patient and we opted for surgical exploration.

The treatment of GI hemangiomas is surgical excision and in our patient exploratory laparotomy with excision of the mesentery and affected bowel loop was performed. However, if definitive diagnosis has been made pre-operatively, laparoscopic excision of the affected part can also be performed.[11]

Mesenteric hemangiomas involving the bowel are infrequent. Establishing pre-operative diagnosis is tough and definitive diagnosis is often only on histo-pathological examination. Sometimes, waiting for a definitive diagnosis can be lethal for patients' outcome, thus mandating a prompt action.

ACKNOWLEDGEMENTS

We would like to thank the patient and his family for being the most integral part of this report.

AUTHOR CONTRIBUTIONS

ST, UK and BDJ were entirely involved in the management of the patient and conception of the study. ST, AB and BP prepared the manuscript. All authors were involved in critical revision of the manuscript.

ETHICAL APPROVAL

None

ORCID

*Bidushi Pokhrel*https://orcid.org/**0000-0003-1308-1682**

REFERENCES

1. Yang GZ, Li J, Jin H. Giant mesenteric hemangioma of cavernous and venous mixed type: a rare case report. *BMC Surg* . 2013;13:50. Published 2013 Oct 30. doi:10.1186/1471-2482-13-50
2. Chin KF, Khair G, Babu PS, Morgan DR. Cavernous hemangioma arising from the gastro-splenic ligament: a case report. *World J Gastroenterol* . 2009;15(30):3831-3833. doi:10.3748/wjg.15.3831
3. Ruiz AR Jr, Ginsberg AL. Giant mesenteric hemangioma with small intestinal involvement: an unusual cause of recurrent gastrointestinal bleed and review of gastrointestinal hemangiomas. *Dig Dis Sci* . 1999;44(12):2545-2551. doi:10.1023/a:1026659710815
4. Agha RA, Borrelli MR, Farwana R, et al. The SCARE 2018 statement: Updating consensus Surgical CAse REport (SCARE) guidelines. *Int J Surg* . 2018;60:132-136. doi:10.1016/j.ijsu.2018.10.028
5. Amarapurkar D, Jadliwala M, Punamiya S, Jhawer P, Chitale A, Amarapurkar A. Cavernous hemangiomas of the rectum: report of three cases. *Am J Gastroenterol* . 1998;93(8):1357-1359. doi:10.1111/j.1572-0241.1998.447_q.x
6. Sylla P, Deutsch G, Luo J, et al. Cavernous, arteriovenous, and mixed hemangioma-lymphangioma of the rectosigmoid: rare causes of rectal bleeding–case series and review of the literature. *Int J Colorectal Dis* . 2008;23(7):653-658. doi:10.1007/s00384-008-0466-4
7. Chung J, Kim M, Lee JT, Yoo HS. Cavernous hemangioma arising from the lesser omentum: MR findings. *Abdom Imaging* . 2000;25(5):542-544. doi:10.1007/s002610000087
8. Abrahamson J, Shandling B. Intestinal hemangiomata in childhood and a syndrome for diagnosis: a collective review. *J Pediatr Surg* . 1973;8(4):487-495. doi:10.1016/0022-3468(73)90211-x
9. Corsi A, Ingegnoli A, Abelli P, et al. Imaging of a small bowel cavernous hemangioma: report of a case with emphasis on the use of computed tomography and enteroclysis. *Acta Biomed* . 2007;78(2):139-143.
10. Si-Mohamed S, Aufort S, Khellaf L, Ramos J, Gasne P, Durand L. Mesenteric cavernous hemangioma: Imaging-pathologic correlation. *Diagn Interv Imaging* . 2015;96(5):495-498. doi:10.1016/j.diii.2015.01.006

11. Law WL. Cavernous hemangioma: uncommon cause of obscure gastrointestinal bleeding. *J Am Coll Surg* . 2007;205(3):511. doi:10.1016/j.jamcollsurg.2006.10.035