CASE REPORT

A Large Mesenteric Lipoma: An Uncommon Etiology of Small Bowel Obstruction

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ABSTRACT

Fat density lesions or masses arising from the mesentery are best imaged in Computed Tomography or Magnetic Resonance Imaging scans. This a case of a 75 year old man who presented with intestinal obstructive symptoms. Urgent computed tomography scan was carried out which revealed a large mesenteric lipoma compressing the small bowel at the level of the jejunal loops. Small bowel obstruction can be due to intrinsic, extrinsic and intraluminal causes. Mesenteric lipomas are uncommon, thus torsion or twisting of the mesenteric lipoma causing intestinal obstruction is exceptionally rare.

Keywords: Mesenteric lipoma, Small bowel, Intestinal obstruction, Computed tomography

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INTRODUCTION

Computed tomography scan is an ideal imaging modality in aiding to diagnose tumors arising from the mesentery. In order to differentiate mesenteric tumors from infectious, inflammatory or vascular process affecting the mesentery is by analyzing the radiologic features as well as adequate clinical history. Primary tumors occurring in the mesentery are comparatively rare (2). We are presenting a case of primary mesenteric neoplasm which is a mesenteric lipoma that has caused small bowel obstruction. Most mesenteric lipomas are actually an incidental finding and do not cause any intestinal symptoms if it is small.

CASE REPORT

A 75 year old gentleman with underlying hypertension and dyslipidemia presented with abdominal distention and vomiting for four days and subsequently unable to pass flatus and no bowel opening for two days. Upon examination, the abdomen was soft and non-tender. Swelling noted at the left inguinoscrotal region (inguinoscrotal hernia). A preliminary anteroposterior (AP) chest and abdomen radiographs were done. The chest radiograph revealed normal findings. The abdomen radiograph showed small bowel loop dilatation evidenced by presence of valvulae conniventes.

Contrast-enhanced Computed Tomography (CECT) abdomen and pelvis findings displayed small bowel mechanical obstruction at the jejunal loops with the transition zone (yellow arrow) at the site of the fat density mesenteric mass (red arrows). This mass measures approximately 12.6 x 6.0 (AP x W) centimeter (Fig. 1a and 1b). The diagnosis of a fat density mesenteric mass is consistent with a large lipoma causing compression to the small bowel with proximal bowel dilatation. This mass shows no infiltration to the adjacent intra-abdominal structures. The remaining small bowel and large bowel loops subsequently from the transition point are collapsed. There was no evidence of bowel ischemia. The other non-specific findings include a non-obstructive left inguinoscrotal hernia.

Subsequently patient underwent emergency laparotomy, excision of the mesenteric lipoma, small bowel resection and side to side anastomosis was performed. Intraoperatively noted a huge mesenteric lipoma (Fig. 2a and 2b), 300 centimeter from the ileocecal junction and 230 centimeter from duodenal junction and it was twisted at its axis causing obstruction. Small bowel resection 3 centimeter proximally and distally was performed using stapler. The patient made a good post-operative recovery.

The histopathology report stated that sections from the mesenteric mass showed a circumscribed, thin encapsulated lesion composed of mature adipocytes separated by thin fibro vascular septae into lobules. There were no lipoblasts or atypical stromal cells seen, thus it was concluded as mesenteric lipoma.

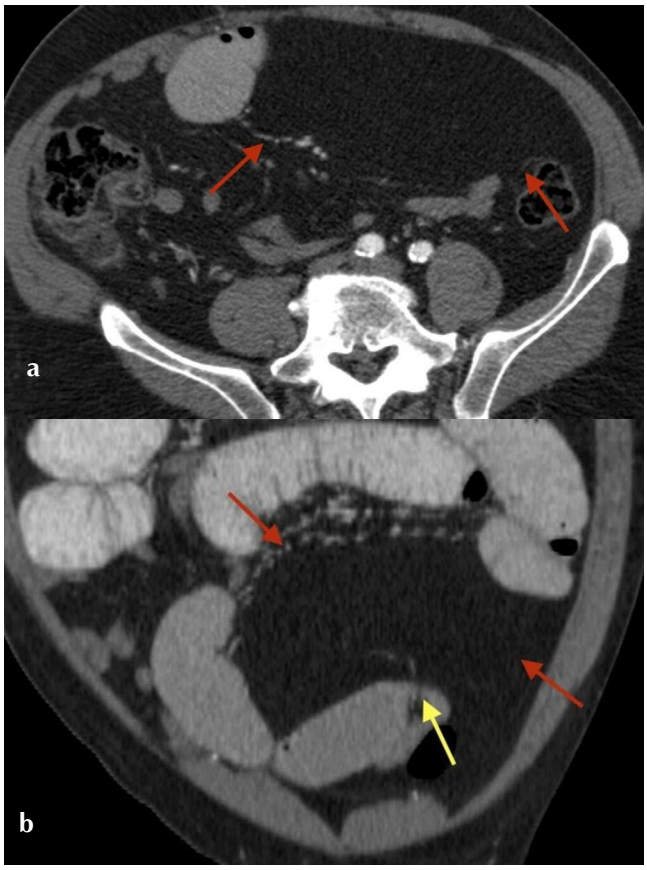

Figure 1a and 1b: Small bowel mechanical obstruction at the jejunal loops with the transition zone (yellow arrow) at the site of the fat density mesenteric mass (red arrows) PVCs

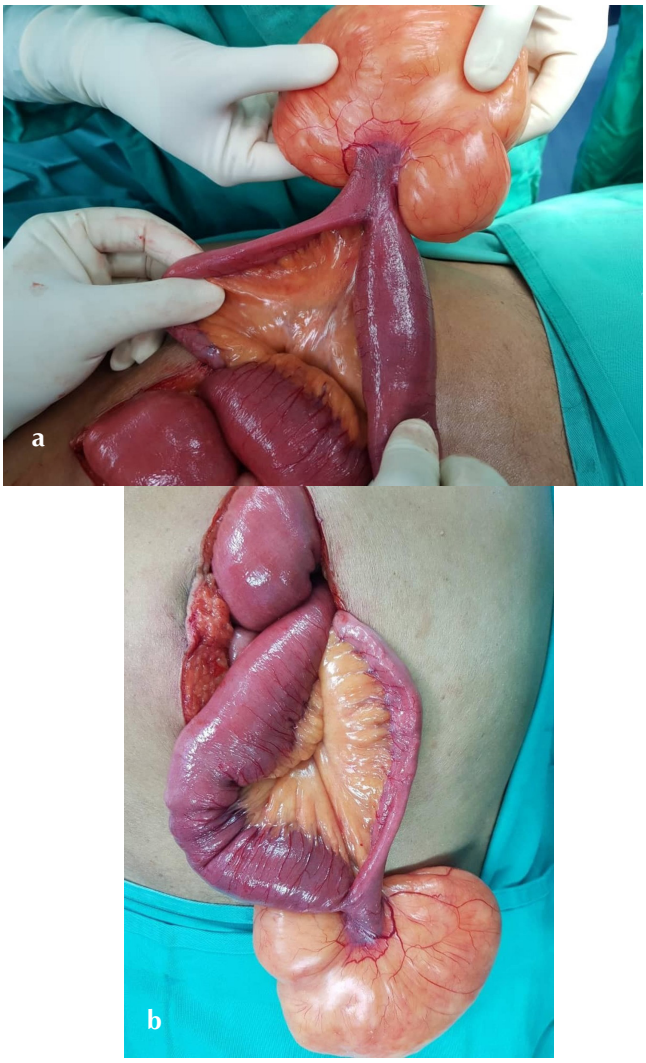

Figure 2a and 2b: Intraoperative image of the large mesenteric lipoma

DISCUSSION

Computed tomography appearance of intra-abdominal lipomatous tumors can be distinguished on the basis of their scan features. Although lipomas are predominantly of fat density and are found in subcutaneous plane, lipomas are generally well-defined, non-invasive tumors, whereas lipomatosis are very extensive and infiltrative lesions. Simple subcutaneous lipomas appear homogeneous on computed tomography; on the other hand, infiltrative lipomas are locally aggressive and may show infiltration to the adjacent structures, yet there is no evidence of metastasis.

Liposarcoma is a tumor of mesenchymal origin, primarily seen at extremities and retroperitoneum. Nevertheless in some rare cases the tumor is seen arising from the mesentery. Primary mesenteric lipomas predominantly affect people between ages of 50-70 years old and higher occurrences in males as compared to the female population. Liposarcomas on the other hand are distinguishable from benign fatty masses by their heterogeneous nature and may exhibit components of higher density or soft tissue density values. The imaging features of a well-differentiated liposarcoma in comparison to a lipoma include, large lesion size (more than 10 centimeter), presence of thick septa (more than 2 millimeter), nodular or globular areas, non-adipose tumor-like areas within the mass and decreased percentage of fat composition (less than 75% of fat in the mass). Unfortunately there is no radiologically dependable method that can be used to differentiate the subtypes of well-differentiated liposarcomas, which are the lipoma-like, sclerosing, inflammatory and spindle cell groups. As mentioned earlier imaging can only provide details such as soft tissue mass, predominantly of adipose cells with non-adipose components.

Our case report discusses about deep-seated lipomas or atypical lipoma, which is uncommon compared to the superficial lipoma. Terminologies such as 'atypical lipoma' and 'atypical intramuscular lipoma' are suggestive of relatively benign course of well-differentiated liposarcomas, as these tumors do not metastasize, however there are high rates of local recurrence and even the potential for delayed dedifferentiation into higher-grade sarcomas, which eventually has the possibility for metastasis.

There are three computed tomography patterns based on the amount and distribution of fat in liposarcomas,

which are solid liposarcomas with the attenuation of over +20 Hounsfield Unit, mixed liposarcomas which shows areas of less than -20 Hounsfield Unit and areas of over +20 Hounsfield Unit; a tumor is termed as pseudo cystic liposarcoma when it demonstrates homogenous density between -20 Hounsfield Unit and +20 Hounsfield Unit (5). The lesion has no metastatic potential and the prognosis is excellent for complete excision.

The more practical importance than the differential diagnostic information that the computed tomography scan can provide is the ability to demonstrate the precise location, deciding the size associated with the extent of the intra-abdominal lipomatous tumor infiltration and its homogeneity. As these tumor grow larger it tends to cause variable symptoms which are invariably due to compression or torsion. In cases whereby the intra-abdominal lipomatous tumor is non-resectable, patients will at least be able to benefit from debulking procedures which will relieve them of the symptoms caused by compression onto the adjacent organs. Computed tomography is also an accurate method to follow up the response of the tumor in cases of non-operative methods of treatment.

CONCLUSION

There are increased risk factors in developing mesenteric lipoma in obese people, diabetes mellitus, elevated cholesterol level, familial tendency, trauma, radiation therapy or chromosomal translocation (3). It is difficult to arrive at a provisional diagnosis of mesenteric lipoma as there are no abnormal laboratory findings suggesting the diagnosis plus it has non-specific symptoms. Computed tomography is able to convey the necessary information which will eventually be useful in the surgical approach for example relieving the small bowel obstruction caused by a huge mesenteric lipoma by determining the possibility of complete resection of the tumor.

AKNOWLEDGEMENTS

We would like to thank the staff of the Department of Surgery Hospital Seberang Jaya and the Radiology Department of Hospital Kepala Batas for the help in providing the operative images, patient management and follow up.

REFERENCES

1. Christelle Tayeh, Sirin Mneimneh, Rayan El-Masri, Nabil Daoud, Mariam Rajab; Giant mesenteric lipoma: A case report and a review of the literature; 2015 [cited 2019 October 10]. Available from:https://www.sciencedirect.com/science/article/pii/S2213576615000275
2. Sheila Sheth MD, Karen M. Horton MD, Melissa R. Garland MS, Elliot K. Fishman MD; Mesenteric neoplasms: CT appearances of primary and secondary tumors and differential diagnosis; 2003 [cited 2019 October 10]. Available from: https://pubs.rsna.org/doi/pdf/10.1148/rg.232025081
3. Jae Myung Cha, Joung Il Lee, Kwang Ro Joo, Jae Won Choe, Sung Won Jung, Hyun Phil Shin, Hyun Chel Kim, Such Hwan Lee, Sung Jik Lim, Giant mesenteric lipoma as an unusual cause of abdominal pain: A case report and a review of the literature; 2009 [cited 2019 October 10]. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2672139/
4. MP Waligore, DH Stephens, EH Soule and RA Mc Leod; Lipomatous tumors of the abdominal cavity: CT appearance and pathologic correlation; 1981 [cited 2019 November 15]. Available from: https://www.ajronline.org/doi/10.2214/ajr.137.3.539
5. Dr Tom Foster, A. Prof Frank Gaillard; Liposarcoma; 2019 [cited 2020 January 20]. Available from: https://radiopaedia.org/articles/liposarcoma