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# Smooth Muscle Tumor of Mesentery Presenting As A Giant Abdominal Mass: A Case Report

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***Abstract:*** *Leiomyoma of mesentery is an uncommon tumor .Cystic degeneration is an uncommon type of degeneration a leiomyoma can undergo .This is a case of 51 year old man who presented with progressive abdominal distension of 4 months duration .Investigations revealed it to be a large abdominopelvic cystic lesion. Exploration of abdomen revealed thick walled cystic lesion of about 30x20 cm adherent to distal ileum which was resected along with the segment of bowel. Histopathology suggested it to be a mesenteric leiomyoma with cystic degeneration.*

***Keywords****: Smooth muscle tumor , mesentery , giant abdominal mass*

## I. Introduction

Primary tumors of mesenteric origin are quite rare. Among them, gastrointestinal stromal tumors (GISTs) and smooth muscle tumors (leiomyoma) seem to be the most common neoplasms.[1-3]. Regarding the latter tumors, especially those of large size, the prediction of the biologic behavior based on histologic grounds is not efficient. Most of the large mesenteric smooth muscle tumors behave aggressively irrespective of their histologic appearance[4-6]. Leiomyoma most commonly involves the uterus but can occur anywhere where there is smooth muscle. There are case reports in the literature with little dedicated literature to this topic. This is such a case which presented as a giant abdominal mass.

**Observations:**

A 51 year-old man presented to Surgical OPD with complaint of progressive abdominal distension of 4 months duration. The present complaint started as abdominal distension which was gradually increasing since 4 months and shortness of breath of 1 week duration. On inspection abdomen was grossly distended, umbilicus wass everted. On palpation a firm non tender mass of 32x30 cm occupying all quadrants of the abdomen with restricted mobility was palpable. Upper and lower margins could not be reached on palpation. On percussion dull note was present over the mass , there was no shifting dullness, fluid thrill was present. ( Fig-1).

A differential diagnosis of mesenteric cyst, omental cyst or cyst arising from the liver was made.

Ultrasound abdomen showed well defined cystic mass lesion measuring 26.7 x 21.7 cm with thick internal echoes and septations extending from epigastric region to pelvis displacing bowel loops laterally.

CT scan of abdomen revealed large abdominopelvic cystic lesion with thick wall and septations.

ELISA for hydatid was negative. Haematological and biochemical investigations were within normal limits.

In view of above findings exploratory laparotomy was planned with pre operative diagnosis of mesenteric cyst.

**Fig-1**

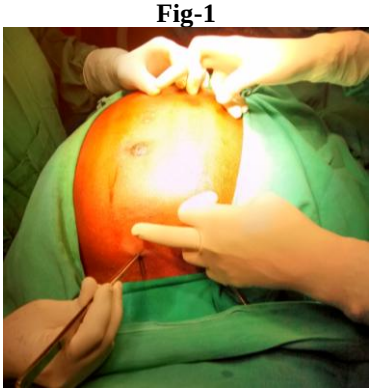
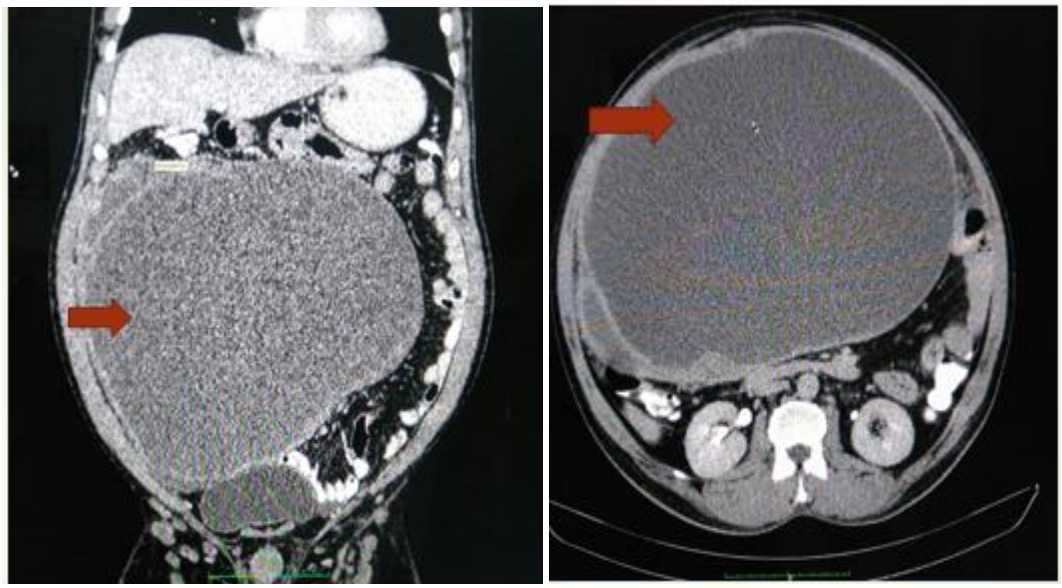


**Fig -2 & 3 Abdominal computed tomography scan showing a large abdomino-pelvic cystic lesion with thick wall and septations**



The patient underwent exploratory laparotomy through a midline incision. This revealed a greyish white thick walled cystic mass of about 30x30 cm occupying all quadrants of abdomen displacing the bowel loops laterally. Fluid from the cyst was aspirated. About 9 litres of brownish fluid was drained from the cyst. Cyst was found within the leaves of terminal ileal mesentery ( fig-4 & 5). Engorged blood vessels were present over the cyst wall. ( fig-6) After ligating the vessels cyst was excised intoto along with the segment of ileum and was sent for HPE. Ileo-ileal end to end anastomosis was done. ( fig-7). The fluid from cyst was sent for gram staining and culture and sensitivity that did not show any organism or growth. Post operative period was uneventful. On HPE - Cyst wall contained interlacing bundles of smooth muscle with spindle shaped nucleus and blunt ends. There were also solid areas consisting of smooth muscle bundles. Sections from intestine showed normal bowel wall. c – Kit was negative. ( Fig-8)

**Fig-4 & 5**

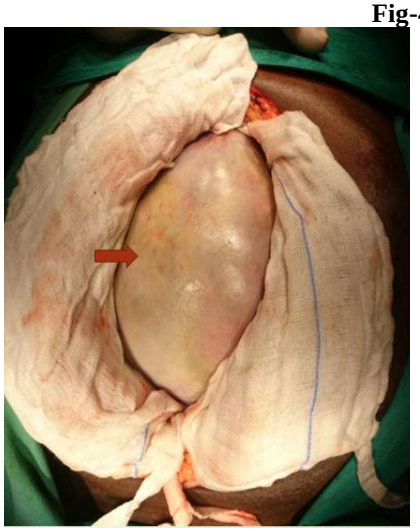
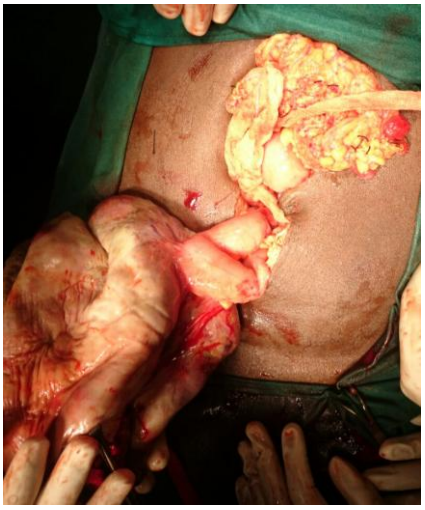



**Fig-6**

**Fig-7**

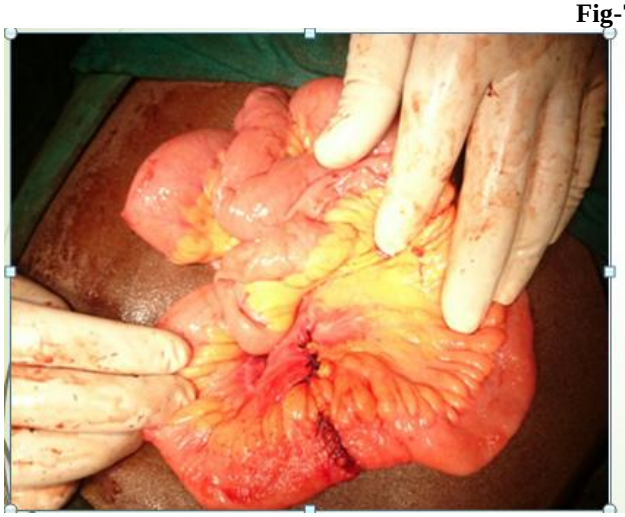
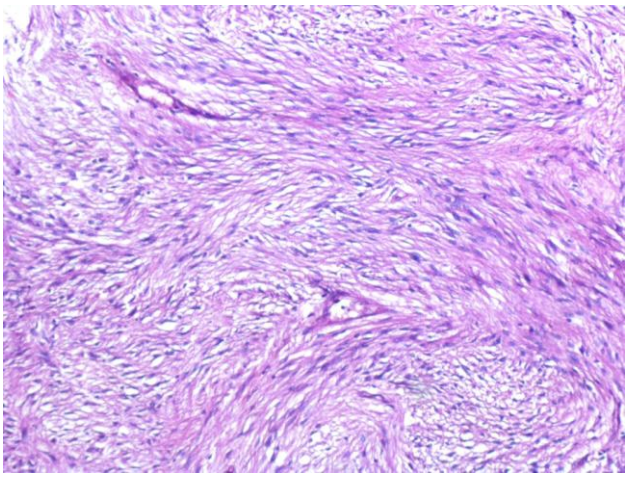



**Fig-8 : HPE showing the features as those of mesenteric leiomyoma with cystic degeneration**



## II. Discussion

Primary solid tumors of the mesentery are usually of mesenchymal nature[1,3]. Most commonly, they are smooth muscle tumors or GISTs[3]. Mesenteric tumors may be solid or cystic and they may demonstrate malignant or benign clinical behaviour. Leiomyomas most frequently arise from walls of alimentary tract particularly stomach and occasionally from peritoneum , mesentery , omentum. Fibromatosis (desmoid tumor), well-differentiated liposarcoma, malignant fibrous histiocytoma, and peripheral nerve sheath tumors also occur in the location[7,8].Regarding the primary, mesenteric smooth muscle tumors, their biologic behavior seems to be unpredictable, because these tumors, when large, usually behave in a malignant fashion, even in the absence of nuclear atypia, tumor cell necrosis, or increased mitotic count[4]. This is in contrast with their uterine counterparts. The uterine smooth muscle tumors with low mitotic count, none-to-mild nuclear atypia, and no tumor cell necrosis are characterized as leiomyomas and behave in a benign fashion[1,4,5,9]. There is sometimes a wide central area of necrosis in leiomyoma probably attributed to reduced central vascularisation of large tumors as was in our case. If the mesenteric tumor is considered a primary mesenteric smooth muscle tumor, despite the bland histopathologic characteristics, the large size of the tumor indicate that it will behave in a malignant fashion[5,6,10].

If the mesenteric tumor is not considered a primary tumor of the mesentery, other entities, mainly the parasitic leiomyoma, should enter the differential diagnosis[5]. Differential diagnosis include cystic lymphangioma , enteric duplication cysts , non pancreatic pseudocysts , hydatid cyst, GIST , desmoid , teratoma or germ cell tumors ,sarcoma .

Differentiating them by imaging studies alone is often inconclusive and surgery is most frequently required for definitive diagnosis.

The final diagnosis is achieved by pathological examination of specimen.

CLASSIFICATION OF MESENTERIC TUMORS

| TISSUE | BENIGN | MALIGNANT |
|---|---|---|
| Epithelial | Papillary serous cystadenoma | Papillary serous cystadenocarcinoma |
| Mesothelial | Cystic mesothelioma | Malignant mesothelioma |
| Mesenchymal | **LEIOMYOMA** Lipoma Rhabdomyoma | Leiomyosarcoma Liposarcoma Rhabdomyosarcoma |
| Lymphatic | Lymphangioma | Lymphangiosarcoma |
| Nervous | Neurofibroma | Neurofibrosarcoma |
| Embryonal | Dermoid cysts | Malignant teratoma |

## III. Conclusion

Primary solid mesenteric tumors constitute a histological heterogeneous group of neoplasms. Histologic examination can reveal the histogenetic nature of a primary solid mesenteric tumor, more often such as GIST, smooth muscle tumor, or desmoid tumor. In the case of the primary mesenteric smooth muscle tumor, the histologic features, namely, the lack of cytologic atypia, mitoses, and tumor cell necrosis do not correlate with the prognosis, because when large, they usually behave in a malignant fashion. On the other hand, a diagnosis of parasitic leiomyoma in females should be made with great caution. In any case, we believe that mesenteric smooth muscle tumors, either primary or parasitic, regardless of the histologic characteristics, should have close follow up, because of the serious possibility of malignant behaviour, even in the absence of histologic criteria of malignancy.

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