

Case Report

Leiomyoma of mesentery in a young male: a case report and review of literature

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ABSTRACT

Primary tumours of mesentery are relatively rare, and its biological behaviour is unpredictable. We herein describing a case of incidentally detected mesenteric leiomyoma along with review of literature in a 19-year-old gentleman, who had a mass in the mesentery of terminal ileum, which was detected during surgery. Mesenteric masses can be both solid as well as cystic. Published reports have consisted of small numbers of cases, which makes it difficult to determine the incidence of specific tumor types. Reasonable estimates of incidence ranges from 1 case per 200,000 population and in 30-40% cases they are cystic and more in females. Diagnosis is delayed unless they become symptomatic with haemorrhage, obstruction or mass per abdomen. As primary mesenteric tumors are rare, particularly in young patients, it is considered important that this type of unusual tumor be included in the differential diagnosis for mesenteric tumors. Since the biologic behaviour of mesenteric smooth muscle tumours seems to be unpredictable long term follow up is warranted.

Keywords: Mesentery, Leiomyoma, Neoplasm, Young adult, Case report

INTRODUCTION

Primary tumours of mesenteric origin are very rare. Traditionally, the primary mesenchymal spindle cell tumours of the gastrointestinal (GI) tract are uniformly classified as smooth muscle tumors (leiomyomas, cellular leiomyomas, or leiomyosarcomas), and tumours with epithelioid cytologic features are designated as leiomyoblastomas or epithelioid leiomyosarcomas.¹

Most of the leiomyoma as the name implies arises from the smooth muscle. Specifically, leiomyomas of the gastrointestinal tract is extremely rare. In one series, they accounted for only 13 of the 1091 smooth muscle tumours of the small intestine (about 1%).^{1,2} We have incidentally encountered a leiomyoma of mesentery in a 19-year-old boy. Considering the rarity of this entity, we herein

describe a case of incidentally detected mesenteric leiomyoma along with the review of literature.

CASE REPORT

A 19-year-old gentleman presented to our out patient department for ileostomy reversal. The ileostomy was constructed approximately 6 months back for ileal perforation. There were no other complaints and his general physical examination was unremarkable with a BMI of 21 kg/ m². Intra-operatively, stoma was approximately 30 cm proximal to the ileocaecal junction and there was a 7×4 cm firm nodular swelling arising from the mesentery of ileum. Rest of the bowel was found to be normal. There was no significant lymphadenopathy and peritoneal deposits, liver could not be assessed as it was densely adhered to the parietes. No free fluid was present

in the abdomen. In the view of mass lesion arising from the mesentery of terminal ileum, right hemicolectomy was done and intestinal continuity was restored by side to side ileo-transverse anastomosis. Post-operative period was uneventful. Patient was discharged on sixth postoperative day.

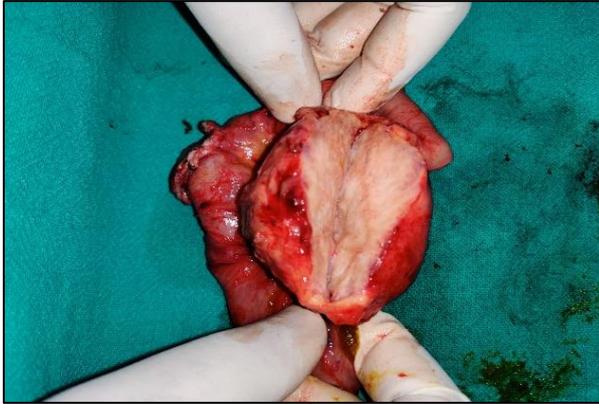


Figure 1: Resected specimen of mass along with terminal ileum.

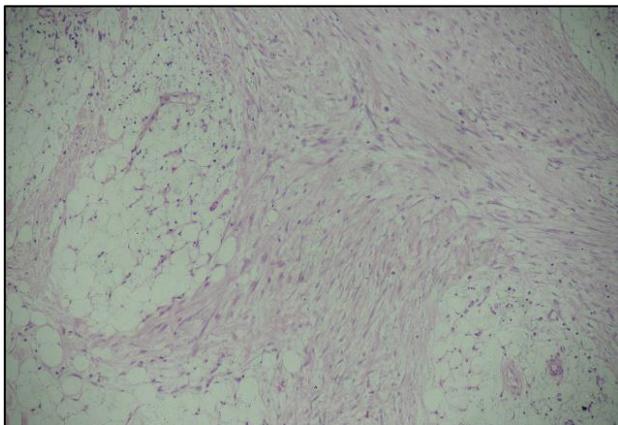


Figure 2: Relatively well circumscribed tumour on the serosal aspect is composed of fascicles of spindle cells showing plump spindle nucleus and focal mild atypia. There was no increased mitotic activity or necrosis.

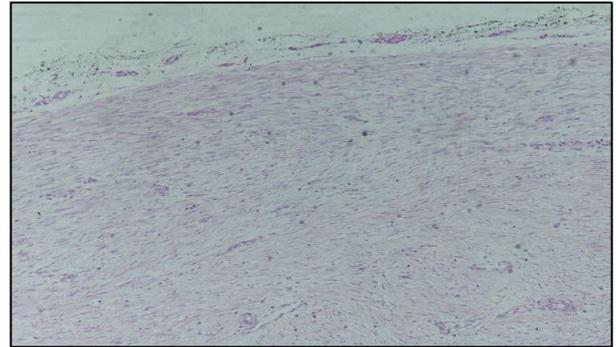


Figure 3: The tumour cells in fascicles with focal mild atypia and infiltration into the serosal fat.

Histopathological examination revealed the mass was of size 6×4.5×4 cm. The outer surface was greyish brown. Cut surface was greyish white (Figure 1). Microscopic examination showed relatively well-circumscribed tumour and it was composed of fascicles of spindle cells showing plump spindle nucleus and focal mild atypia. There was no increased mitotic activity or necrosis (Figure 2, Figure 3). Immunohistochemistry (IHC) showed H-caldesmon positivity (Figure 4), while DOG 1 and Cycline D1 were negative. Immunohistochemical features suggested leiomyoma. After 8 months of follow up with ultra sound abdomen patient is doing well.



Figure 4: Strong cytoplasmic staining of all tumour cells.

Table 1: Mesenteric tumors.

Cystic tumors		Solid tumors	
Benign	Malignant	Benign	Malignant
Mesothelial cyst			Neurofibrosarcoma
Enteric cyst		Neurofibroma	Liposarcoma
Intestinal duplication	Malignant	Lipoma	Lymphoma
lymphangioma	mesothelial cyst	Inflammatory psuedotumour	Metastases
Dermoid cyst	Malignant	Sclerosing mesenteritis	Leimyosarcoma
Mucinous cyst	teratoma	Leimyoma	Rhabdomyosarcoma
Psuedocysts		Rhabdomyoma	GIST
Lymphocele			Carcinoid
GIST: Gastrointestinal stromal tumours			

DISCUSSION

Primary solid tumours of the mesentery are usually of mesenchymal origin and primary solitary leiomyoma of mesentery is very rare. Published reports have consisted of small numbers of cases, which makes it difficult to determine the incidence of specific tumor types.³ Reasonable estimates of incidence ranges from 1 case per 200,000 population and in 30-40% cases they are cystic and more in females.⁴ Smooth muscle tumours of the mesentery are a serious problem because of their location and tendency to have peritoneal implants.⁵ Usually, the diagnosis is delayed unless they become symptomatic with haemorrhage, obstruction or mass per abdomen. However, in our case, it was incidental. Malignant variety of mesenteric tumours is more common than the benign, the ratio being 5 to 2. In a study of 44 cases of tumours of mesentery carried out by Yannopoulos et al, 7 were smooth muscle tumours, 5 being malignant and 2 benign. All these patients were adults ranging between 32 and 78 years of age.⁵ Male abdominal leiomyoma are rarer, with currently reported cases occurring mainly in young men (22-45 years old) with a larger tumour size (25-31 cm).⁶

The biologic behaviour of mesenteric smooth muscle tumours seems to be unpredictable. Large tumours usually behave in a malignant fashion, even in the absence of nuclear atypia, tumour cell necrosis, or increased mitotic count.⁵ In our case, IHC could only resolve the diagnostic dilemma between leiomyoma and Gastrointestinal stromal tumours (GIST). At times, based on the histopathological characteristics, it is very difficult to differentiate these mesenchymal tumours. Imaging studies like Contrast enhanced Computed tomography (CECT), which remains the dominant imaging modality for the diagnosis of mesenteric neoplasms, may have helped us preoperatively.

We proceeded with right hemicolectomy after incidentally discovering a solid mass lesion in the mesentery of terminal ileum. Based on gross appearance, it is extremely difficult to differentiate a benign lesion from a malignant one. Other than a primary mesenteric tumour, other differentials are less likely. If the patient were a female, we could have considered the possibility of parasitic leiomyoma. Also, in a female with a synchronous uterine leiomyoma, there is a possibility of a second leiomyoma that got detached from a subserosal location and got attached to the mesentery. In such a case, the indolent histologic features of the neoplasm assure a benign biologic behaviour. Other differential diagnosis can be cystic lymphangioma, enteric duplication cysts, non-

pancreatic pseudocysts, hydatid cyst, GIST, desmoid, teratoma or germ cell tumours, and sarcoma (Table 1).³

CONCLUSION

Even though leiomyoma is more common in females, it can be presented in males also, without any symptoms or as an incidental finding during imaging or intra-operatively. Therefore, we should include this entity as one of the differential diagnosis of mesenteric tumours. Good utilisation of IHC markers helps to avoid diagnostic dilemma.

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REFERENCES

1. Miettinen M, Sarlomo-Rikala M, Lasota J. Gastrointestinal stromal tumors: Recent advances in understanding of their biology. *Human Pathology.* 1999;30(10):1213-20.
2. Miettinen M, Kopczynski J, Makhlof HR, Sarlomo-Rikala M, Gyorffy H, Burke A, et al. Gastrointestinal stromal tumors, intramural leiomyomas, and leiomyosarcomas in the duodenum: A clinicopathologic, immunohistochemical, and molecular genetic study of 167 cases. *Am J Surg Pathol.* 2003;27:625-41.
3. Dufay C, Abdelli A, Pennec VL, Chiche L. Mesenteric tumors: diagnosis and treatment," *Journal of Vascular Surgery.* 2012;149(4):e239-51.
4. Metaxas G, Tangalos A, Pappa P, Papageorgiou I. Mucinous cystic neoplasms of the mesentery: a case report and review of the literature. *World J Surg Oncol.* 2009;7:47.
5. Yannopoulos K, Stout AP. Primary solid tumors of the mesentery. 1963;4:914-27.
6. Wang X, Ren J, Chen G, Xu S. Giant abdominal leiomyoma of male: a case report and literature reviews. *Int J Clin Exp Pathol.* 2015;8(7):8532-5.
7. Agha RA, Franchi T, Sohrabi C, Mathew G, Kerwan A SCARE Group. The SCARE 2020 Guideline: Updating Consensus Surgical case report (SCARE) Guidelines. *Int J Surg.* 2020;S1743-9191(20)30771-8.

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