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Case Note

Leiomyosarcoma of stomach: A case report

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Abstract
We report a rare case of leiomyosarcoma of stomach infiltrating into the spleen and tail of pancreas, which presented at the age of 28 years of age with haematemesis and was diagnosed after exploratory laparotomy. En block excision of tail of pancreas, spleen and part of the greater curvature of stomach containing the mass was done.

Key words: Leiomyosarcoma, Leiomyoma, Stomach

In 1962, Stout[5] first introduced the term "leiomyoblastoma" into the English literature with a report of 69 cases of myogenic gastric tumour, 2 of which were malignant. He suspected that these tumours were Myogenic. In the recent classification of soft-tissue tumours proposed by the World Health Organization, these tumours are called epithelioid leiomyomas or leiomyosarcomas[7].

Leiomyosarcoma of gastric origin is a rare condition and there have been only a few published reports of a limited number of patients[2,7]. Occasionally, the tumour becomes evident as an abdominal mass, in which case laparotomy shows extensive tumour involvement of the gastrocolic ligament and the greater omentum, with diffuse thickening of each. In this case extensive tumour involvement of the gastrocolic ligament, pancreas and spleen was present.

Case report
A 28-year-old man was admitted for the evaluation of repeated bouts of haematemesis. Laboratory data, including complete blood count and blood chemistry, were normal except for anaemia. On physical examination systemic and abdominal examination revealed no abnormality. X-ray chest was normal with no evidence of lung metastasis. Ultrasonography showed the presence of a 55 X 46 mm size lobulated hypoechoic intraluminal mass in upper part of stomach [? Leiomyoma]. Liver was normal in ultrasonography findings. Upper gastrointestinal endoscopy revealed a sub mucosal mass with erosion of fundus and body, and endoscopic biopsy revealed features suggestive of chronic gastritis. Barium meal for stomach and duodenum was suggestive of thickened gastric mucosal folds showing presence of oval smooth filling defect in fundal region [intraluminal gastric mass vs. polyp].

Exploratory Laparotomy revealed a large upper abdominal globular mass, measuring approximately 6 X 5 cm, located on the greater curvature in the fundus of stomach. It was pushing the left lobe of liver upwards and invading into gastro-splenic ligament, spleen and tail of pancreas. En block excision of tail of pancreas, spleen and part of the greater curvature of stomach containing the mass was done. The cut surface of the lesion was homogenous and grey with few areas of necrosis (Fig 1).

Microscopically, the specimen consisted of sheets of round, oval and polygonal cells with ill-defined borders. Tumour cells had round or oval nuclei and abundant eosinophilic cytoplasm. There was a transition from round to spindle cells in some sections. Over 20 mitotic figures per 50 high-power fields were seen. Thus, microscopic features were consistent with a pathological diagnosis of leiomyosarcoma. Section from stomach showed leiomyosarcoma of high grade malignancy. The mucosa was intact mostly but at places was ulcerated. Section from pancreas also showed low grade leiomyosarcoma with infarction. Spleen was fibrocongestive with abscesses.

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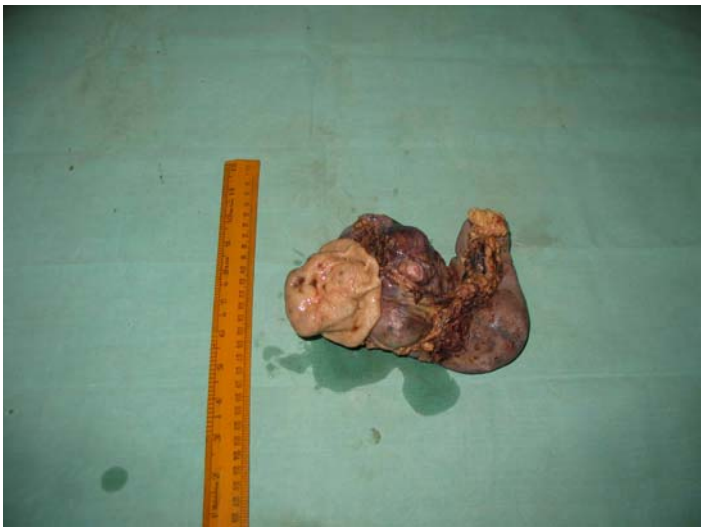
Fig 1: Resected specimen following partial gastrectomy, splenectomy and excision of tail of pancreas.



Discussion

Leiomyosarcomas arise from the muscularis propria of the gastrointestinal tract and uterus[2]. It accounts for 1% of all malignant tumours of the stomach. It has been reported to occur most often in the stomach. Out of 155 reported leiomyoblastomas, 146 were found in the stomach[2]. These tumours primarily affect middle-aged men and usually present with upper gastrointestinal bleeding or peptic-ulcer-like symptoms ranges. In the stomach leiomyosarcomas most commonly arise in the upper part of the body or the fundus of the stomach (75%), especially on the posterior wall. Microscopically, they are composed of a mixture of round epithelioid and spindle cells, many of which have clear cytoplasm[7].

Leiomyosarcomas are distinguished from "benign" leiomyomas principally on the basis of mitotic figures and size[2, 4]. Endoscopic ultrasound and biopsy are helpful in establishing diagnosis. Liver metastasis are best detected by endoscopic ultrasound. When the tumours are larger than 6 cm in dimension, they should be considered malignant. No. of mitotic figures present per 50 HP determine the grade of malignancy. More than 10 mitotic figures are indicative of high grade malignancy while less than 10 are indicative of low grade malignancy. Metastases occur most commonly in the liver and peritoneal surfaces and are strongly correlated to mitotic activity and size[6]. It is believed that these residual tumour cells usually take some time to reach a sufficient size to compress the gastrointestinal tract, and by that time widespread metastases are evident. Thus, it is important to observe the enlargement of these tumours carefully by ultrasonography or CT[8].

Surgical resection is the treatment of choice for gastric leiomyosarcomas. Every effort should be made to excise the tumour completely with an adequate margin of uninvolved tissue. In the experience of Appelman and Helwig[2], the extent of surgical excision does not affect survival; total or subtotal gastrectomy offered no better chance for survival than segmental resection, if the resection margins were negative for tumour cells. It is sometimes difficult, however, to resect such a tumour segmentally due to numerous feeding arteries at its surface. The great deterrent to resection of an abdominal tumour is the risk of haemorrhage due to the tumour's vascularity. Therefore we believe that subtotal radical gastrectomy offers the best palliation for patients having this tumour. Resection of adjacent organs may be necessary to accomplish complete excision. In our patient, the stomach, spleen and tail of the pancreas were also removed. Patient's who undergo resection for cure have survival rates of 62% and 45% at 5 and 10 years[1].

Anticancer drugs should be given to suppress the proliferation of the residual tumour cells. Although several requirements should be met for a drug to be considered for intraperitoneal use in patients with locally recurrent or persistent peritoneal disease, no specifically effective drugs against leiomyosarcomas are known[3]. The liver and peritoneal surfaces are the most common sites of metastasis. The retroperitoneal

soft tissues are frequently involved. Mitomycin-C has been effective for the treatment of effusion of malignant cells into peritoneal and pleural cavities due to metastatic tumour, which is usually resistant to other forms of chemotherapy[3].

Most metastasizing leiomyosarcomas have an unfavourable prognosis[7]. The clinical behaviour of the leiomyomatous tumour of gastric origin, however, often is difficult to predict. Only approximately 20% of leiomyomatous gastric tumours follow a malignant course. Large size and multinodularity, high mitotic activity and mucosal infiltration have been reported to be of prognostic significance[2, 4].

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