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Case Report

Gastro Intestinal Stromal Tumor -Supra Pubic Region

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Abstract

Gastrointestinal stromal tumours (GISTs) are rare mesenchymal neoplasms of the gastrointestinal tract and mesentery. They are usually found in the stomach or small intestine but can occur anywhere along the GIT and rarely have extra GI involvement. They are associated with high rates of malignant transformation. Most GISTs present asymptomatically but also present with bleeding, abdominal pain, and rarely gastric outlet obstruction. There have been many risk stratification classifications systems which are calculated based on tumour size, mitotic rate, location, and perforation. They are best identified by computed tomography (CT) scan and most stain positive for CD117 (C-Kit), CD34, and/or DOG-1. The approaches to treating GISTs are to resect primary low-risk tumours, high-risk tumours and further treated with imatinib therapy and unresectable tumours treated with neoadjuvant imatinib 400 mg daily followed by surgical resection and regular follow up by abdominal CT scan.

Keywords: Spindle cells, stromal tumor, intestine.

INTRODUCTION

Gastrointestinal stromal tumours actually originate from the interstitial cells of Cajal. Hirota and colleagues discovered that these tumours express CD117 Antigen (C-Kit), a gain of function mutation responsible for activating the growth of these tumours. Gastrointestinal stromal tumours are KIT-expressing and KIT (tyrosine kinase receptor - CD117)-signalling driven mesenchymal tumours. Many GIST tumours have an activating mutation in either KIT or PDGFR (Platelet-Derived Growth Factor Receptor Alpha). They account for <1% of all GI tumours. Now a days it has been recognised that GIST'S arise from multipotent mesenchymal stem cells [1].

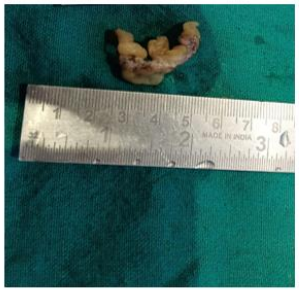
CASE REPORT

Here we present a 44-year-old female who came with a history of pain abdomen in the past 6 months. The pain is located in suprapubic region with abdominal discomfort and weight loss. Postoperatively, the soft tissue mass removed from ileum is sent for histopathological department.

Grossly we received a single grey white to grey brown soft to firm mass measuring 7x5x2.5 cm cut section shows grey white with focal grey yellow areas. (Figure 1&2)

Histopathological examination revealed a well circumscribed tumor comprising of spindle to elongated cells having wavy and tapering nuclei arranged in whirling interlacing bundles and fascicles having moderate amount of eosinophilic cytoplasm with indistinct cell borders, some of the cells are showing prominent nucleoli. Focal areas showing congested and dilated blood vessels and diagnosed as GIST [3-5].

Figure 1



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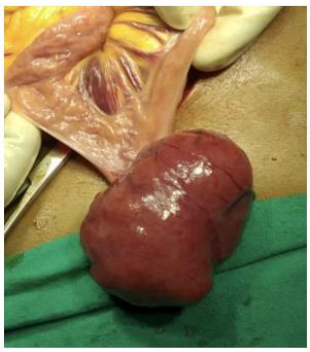
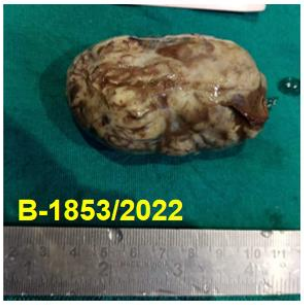
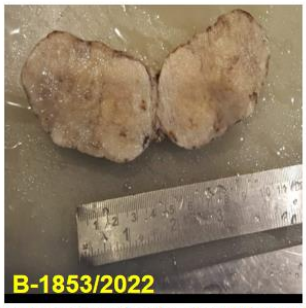


Figure 2

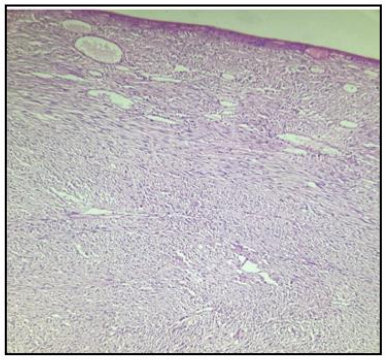


Single grey white to grey brown soft to firm mass



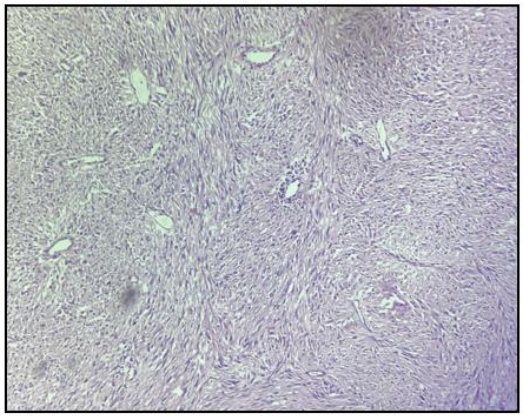
Cut section shows grey white with focal grey yellow areas

Figure 3



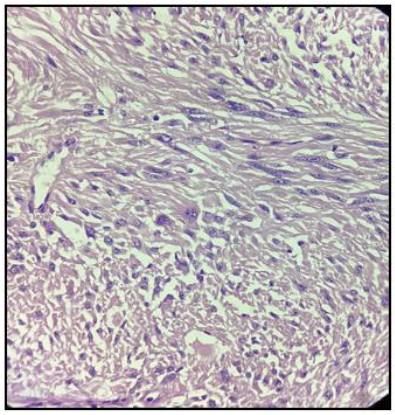
H&E X40 view showing well circumscribed lesion with Tumors cells

Figure 4



H&E X100 view showing tumor cells which are spindle shaped

Figure 5



H&E X 400 view showing tumor cells spindle to elongated cells arranged in whorling interlacing bundles some cells are showing prominent nucleoli

DISCUSSION

GISTs present asymptomatically in 18% of cases, Symptomatic patients may present with nonspecific symptoms of nausea, vomiting, abdominal distension, early satiety, abdominal pain, and rarely as a palpable abdominal mass. Larger tumors may cause obstruction of the gastrointestinal lumen by endophytic growth or compression of the GIT from exophytic growth leading to dysphagia, obstructive jaundice, or constipation, depending on the location of the mass. The diagnosis of GISTs are made with histopathology and immunochemistry. GISTs have three different histologic findings, including spindle (70%), epithelioid (20%), or mixed type (10). Approximately 88% of GISTs stain positive for both CD117 and DOG-1 a recent analysis of 70 cases of GIST showed positive expression of CD117 and DOG-1 in 95.71% and 88.57% of cases respectively. Literature suggests DOG-1 appears to be more sensitive and specific than CD117. However, in GISTs with a PDGFRA mutation, their sensitivities decrease to 9% and 79% respectively Necrosis of GISTs can also be seen on histological images and can progress to calcifications which can be viewed with CT or MRI imaging [3].

CONCLUSION

GISTs are rare tumors that account for a small percentage of gastrointestinal neoplasms. GISTs that occur outside the stomach are associated with a higher malignancy potential. Usually GISTs are an incidental finding and therefore most of the time present

asymptomatically. The pathology of GISTs consist of either spindle cells, epithelioid cells, or mixed cell types. GISTs most commonly stain positive for CD117 and DOG-1 GISTs are staged using the TGM system, which determines that grade and metastasis are the best predictors of prognosis.

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