Case Report

Coexistence of gastrointestinal stromal tumor (GIST) and serosal cystic mass

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Abstract

Introduction: GIST constitutes a distinct group of rare gastrointestinal tract tumors that originate from the interstitial cells of Cajal. Most of GISTs are small and asymptomatic and are discovered incidentally during evaluation for unrelated problems. The coexistence of GISTs with other primaries is usually discovered incidentally during GI surgery for carcinomas. Here in, we describe the reverse of the common situation, as an unknown serosal cystic mass was incidentally discovered during surgery for intestinal GIST. Apart from coexistence both lesions were lining at a same point across intestinal wall.

Keywords: Gist, IHC, midjujunal, serosal cystic mass.

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INTRODUCTION

Gastrointestinal stromal tumours (GIST), a different histopathological group of intestinal tumours which are derived from the mesenchyme, are seen rarely. They arise most commonly from the stomach which account for ~1% of all the gastric malignancies[1] GIST constitutes a distinct group of rare gastrointestinal tract tumors that originate from the interstitial cells of Cajal.[2] Most of GISTs are small and asymptomatic and are discovered incidentally during evaluation for unrelated problems. When the lesion grows over 2cm in size, ulceration may occur. Symptoms like epigastric pain and gastro intestinal bleeding become more common then.[3] Over the last ten years the management of GISTs has dramatically altered but their coexistence with other gasrointesinal tumors of different histogenesis presents a special interest. The coexistence of GISTs with other primaries is usually discovered incidentally during GI surgery for carcinomas.[4]

CASE REPORT

A 60 year male presented to our hospital with a chief complaint of acute abdominal pain with maleana, after initial history taking he was referred to radiology department for ultrasonography, which shows findings suggestive of mass in abdomen in midjejunal area. In view of the USG finding and clinical signs and symptom, patient was posted for surgery. For the surprise, surgeon found two separate tumour masses arise from midjejunal area one facing peritoneal cavity and other into the lumen of intestine at the same point. Tumours resection with segment of small intestinal was done, and sent for histopathology. On gross examination there was two mid jejunal masses arising from the same site facing opposite, One having the peduncle and protruding/hanging from the serosal margin into the peritoneal cavity measuring 4.5 X 4 X 2.5 cm, external surface brownish black and irregular. There was torsion of the mass, due to that it get infarcted, cut surface was also brownish black and completely necrosed. The microscopic findings were not diagnostic, and also we were unable to perform further investigation like IHC, to reach out the final diagnosis of the mass due to complete necrosis. The other tumour mass facing opposite to it into the lumen of the small intestine was having size of 3x2.5x2 cm with ulcer on external surface and greyish white cut surface. The

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histopathological examination of multiple sections showed a tumour which was arising from the muscle layers. The tumour cells were arranged in interlacing bundles and fascicles and in diffuse sheets and nests (Fig-2). The individual cells were predominantly of the spindle cell type with few epithelioid types. Atypical mitosis, areas of necrosis and haemorrhage were noted. IHC was carried out, which revealed CD 117 positivity (Fig-3) and factor VIII negativity. On the basis of surgical, histopathological and IHC finding final diagnosis of GIST of the small intestine with or in adjuvant with a serosal torsioned necrosed mass was made. The postoperative follow up was uneventful.

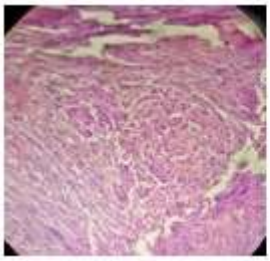

Figure 1: Low power view showing tumour cells arranged in interlacing bundles and fascicles and in diffuse sheets and nests.

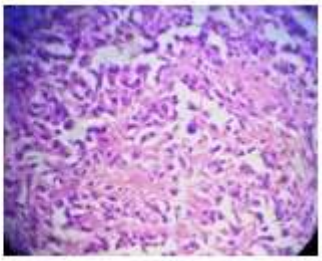

Figure 2: High power views showing the individual cells were predominantly of the spindle cell type with few epithelioid types. Atypical mitosis, areas of necrosis and haemorrhage were noted

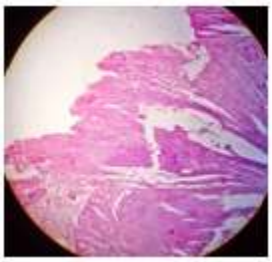

Figure 3: Low power shows coexistence of intraluminal gist and serosal torsioned necrosed mass torsioned

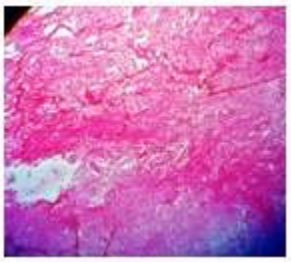

Figure 4: Low power view showing serosal necrosed mass

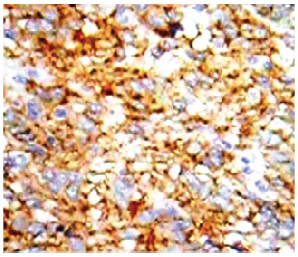

Figure 5: Photomicrograph of IHC which revealed CD 117positivity in gist

DISCUSSION

GISTs arise from the muscularis mucosa or muscularis propria layers and most exhibit an endophytic growth pattern, growing within the bowel lumen. In up to one third of patients the tumor invades an adjacent organ. The vast majority of GISTs (up to 70%) arise in the stomach, with 20-30% originating in the small intestine and the remainder 10% occurring in the oesophagus, colon and rectum[5] Most of the GISTs are detected in the 6th or 7th decades of life, while only 10% are detected in those below 40 years of age.[6] Although morphologically similar to other benign and malignant smooth muscle and neural stromal tumors, GIST constitutes a distinct group of rare gastrointestinal tract tumors that originate from the interstitial cells of Cajal. The latter are regulators of gut peristalsis and normally express CD117, which is a product of the c-kit proto-oncogene that encodes a tyrosine kinase receptor, which regulates cellular proliferation in GISTs[7] Most of GISTs are small and asymptomatic and are discovered incidentally during

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evaluation for unrelated problems. When the lesion grows over 2cm in size, ulceration may occur. Symptoms like epigastric pain and gastro intestinal bleeding become more common then[3] Other common symptoms include early satiety, indigestion, bloating, vague abdominal pain, and a palpable mass. Spontaneous rupture into the peritoneal cavity can occur, with associated severe abdominal pain and hypotension.[8] The commonest symptoms of gastric GISTs are haemorrhage and pain. Larger GISTs were found to have a tendency to grow lobulated and exophytic, whereas the smaller ones had a tendency to grow into the lumen. It is difficult to predict their metastatic potential, because malignity does not have any obvious clinical and pathological findings. All types of GISTs are considered to have malignant potential. Especially, the small intestinal GISTs have more potential for becoming malignant than the colonic and the gastric ones. Unlike the gastric adenocarcinomas, routine lymphadenectomy is not recommended unless there is no suspicion of intraoperative lymph node (LN) metastasis.[6] In general, the spindle cell type predominates over the epithelioid type. The malignant potential of GISTs depends on the tumour size and the mitotic counts. In the very low malignant risk group, the tumour size is less than 2 cm and the mitotic counts are less than 5 per 50 high power field (HPF). In the low malignant risk group, the tumour size is 2cm to <5cm and the mitotic counts are <5/50 HPF. In the intermediate risk group, the tumour size is 5cm to <10cm, and the mitotic counts are <5/50 HPF. In the high risk group, the tumour size is >10 cm, and the mitotic counts are >10/50 HPF. The other important histological properties are necrosis and ulceration. Especially, coagulation necrosis is thought to be related to the malignant behaviour. Recurrence and death were more common in the patients in the high-risk group, and these patients needed additional treatment[9]. Although the outcomes of several published series helped in understanding their pathogenesis, little is known about their coincidence with other tumors of different histogenesis. There are some data regarding the co-occurrence, the association and the potential common origin (genetic pathways of tumorigenesis), between GIST and other tumors[10,11]. The limited number of these cases cannot confirm the existence of a common factor in tumorigenesis of these histopathologically completely different tumors and further studies are needed to clarify the possible association[12]. The coexistence of GISTs with other primaries is usually discovered incidentally during GI surgery for carcinomas[13-15]. Here in, we describe the reverse of the common situation, as a unknown tumour mass was incidentally discovered during surgery for intestinal GIST. Gastrointestinal stromal tumors (GIST) represent the most common mesenchymal tumors of the digestive tract. Over the last ten years the management of GISTs has dramatically altered but their coexistence with other gasrointesinal tumors of different histogenesis presents a special interest. The coexistence of GISTs with other primaries is usually discovered incidentally during GI surgery for carcinomas.[4] Here in this case we operated for a intestinal tumour which comes to an gist on histopathology which was confirmed on immunohistochemistry but along with that we found a tumour mass on the peritoneal side with a torsion.

CONCLUSION

Here in, we are reporting the case of intestinal (midjejunall) gist which was found in coexistent with the serosal cystic mass, the histomorphological features of which could not be seen due to extensive necrosis secondary to torsion. This case was rare in view that one can get gist incidentally during surgery for other tumour but herein we found extraluminal serosal cystic mass during the surgery for the gist that to from the same site just opposite to side of intraluminal gist.

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