A RARE CASE OF PERFORATED GIST (GASTRO INTESTINAL STROMAL TUMOURS) OF TRANSVERSE MESOCOLON WITH SYNCHRONUS RECTAL CARCINOMA: A CASE REPORT

Venkat Krishna B R[1], Shashirekha C A[1]***,** Suresh T N[2], Jothinder Singh[1]

* [1]Dept. of General Surgery, Sri Devaraj Urs Medical College, Tamaka, Kolar, Karnataka 563101. India
[2]Dept. of Pathology, Sri Devaraj Urs Medical College, Tamaka, Kolar , 563101. India

***Corresponding Author:** drca_shashirekha@yahoo.co.in

This article is available online at www.ssjournals.com

ABSTRACT

GISTs (Gastro intestinal stromal tumours) are rare neoplasm's and represent 0.1–3% of all gastrointestinal cancers. Although their pathogenesis is known, little is known about their coincidence with other tumours of different histogenesis. Surgery remains the mainstay therapy for GIST and Colorectal cancers, although the operative strategies and extent of resection are fairly different.

We report here a case of 68 year old male who presented with a large pedunculated GIST 26cm x 20cm x 15cm arising from transverse mesocolon with a small perforation measuring 2x1 cm. Per rectal examination revealed a fungating mass measuring 4 x 3cm about 5 cm from anal verge. Histopathological findings confirmed the presence of colonic GIST with a highly malignant behaviour while rectal biopsy confirmed adenocarcinoma.

Keywords: Perforation; Transverse Mesocolon; Synchronous

1. Introduction:

Gastrointestinal stromal tumours are the commonest mesenchymal tumour of gastro intestinal tract[1,2], mostly seen in stomach and small intestine while rarely in colon, rectum and oesophagus. They differ histologicaly, immunohistochemically and genetically from leiomyoma, leiomyosarcoma and schwanomma. Immunocytochemical staining for CD117 is helpful in confirming the diagnosis.

Care must be taken to differentiate GISTs from adenocarcinoma. Surgery is the treatment of choice for resectable tumours. GISTs bear good prognosis after margin negative surgery. In any case of GIST one should be alert to recognize a possible co-existent tumour with different histological origin and to perform a thorough preoperative and intra-operative control.

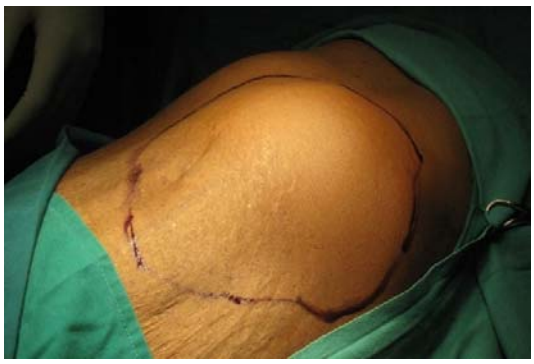
We report here a very rare case of perforated GIST of transverse colon with synchronous rectal carcinoma.

2. Case Report:

A 68 year old male reported to casualty with complaints of severe abdominal pain associated with two episodes of vomiting. Clinical examination revealed fullness in epigastric region (Fig–1), diffuse tenderness all over abdomen with guarding, rigidity and a palpable mass measuring 8cm x 6cm in epigastric region.

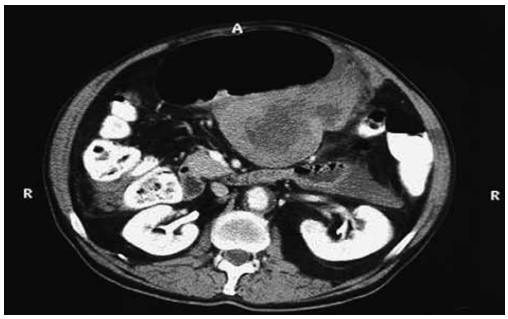
Per rectal examination revealed a fungating mass measuring 4 x 3cm about 5 cm from anal verge.

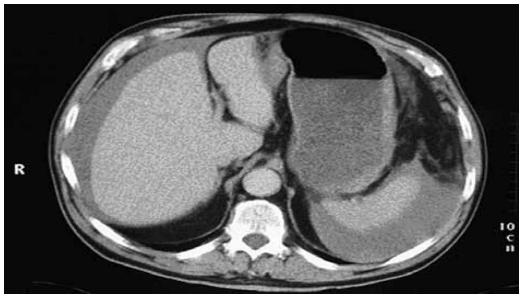
Fig 1 - Fullness in epigastric region



Laboratory results were unremarkable with the exception of a mild normocytic anaemia. Plain abdominal radiography showed gas under diaphragm. Abdominal CT scan showed (Fig 2 & Fig 3) a tumour mass between the back of the stomach and transverse colon.

Fig-2 & 3, CT Scan showing a tumour mass between the back of the stomach and transverse colon.





Patient was immediately resuscitated with intravenous fluids and after all pre-operative preparation patient was taken for exploratory laparotomy.

Per operative findings - a large pedunculated tumour mass 26cm x 20cm x 15cm (Fig-4 & Fig-5) arising from transverse mesocolon with a small perforation measuring 2x1 cm on the posterior aspect of transverse colon. Adhesions all around the tumour mass were freed. The pedunculated base was freed ligated and cut. Resection of tumour mass was followed with anastomosis and primary closure of perforation). Post operatively patient recovered well and was discharged on the tenth postoperative day and advised further follow up.

Figure 4, Pedicle of the tumour exposed

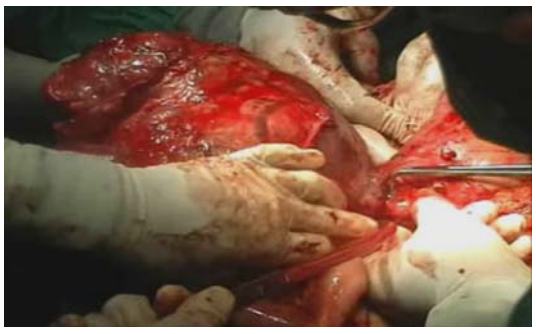
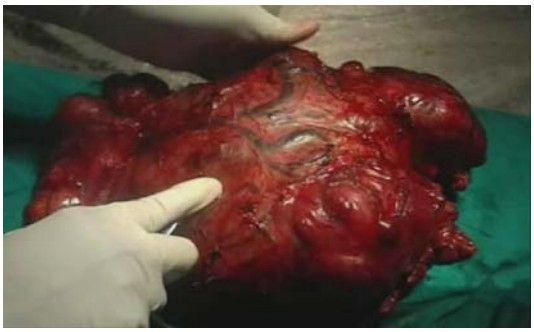


Figure 5, Tumour specimen(26cm x 24cm x 15cm)



On opening the lumen, an ulcero-proliferatine tumour measuring 6x3.5x1cm was noted. On microscopy oval to spindle cells arranged in interlacing bundles and whorled pattern. Tumour showed increased mitotic activity (fig-6), Tumour also shows infiltration through muscularis propria into subserosal fat. These above mentioned features are suggestive of malignant GIST**.**

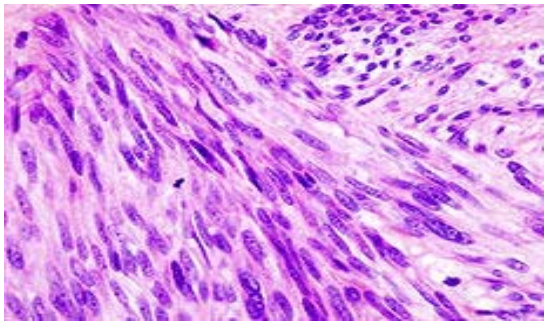


Figure 6 – Histopatological image of GIST

3. Discussion:

Gastrointestinal stromal tumours are uncommon and their pathogenesis, diagnosis, nomenclature, and prognosis have long been a subject of considerable controversy. Recent studies suggest that GISTs represent a subgroup of gastrointestinal mesenchymal tumours arising from a common precursor cell, the interstitial cell of Cajal, or a primitive stem cell from which both Cajal cells and smooth muscle cells arise [3.]

The most important markers for defining GISTs are CD117 (c-kit protein) and CD 34 (hematopoietic cell progenitor antigen). The majority of GISTs are usually positive for CD117 (near 95% of cases), CD34 (positive in 70–80% of cases), smooth muscle actin

(positive in 40% of cases), IS 100 (positive near 5% of cases), and desmin (positive in approximately 2% of cases)[1-3] .

Gastrointestinal stromal tumours may occur anywhere along the digestive tract. They may be found anywhere between the oesophagus and the anus. Additional locations have been found to include omentum, mesentery and retroperitoneum[4].

There is a continuously increasing knowledge about synchronous presentation of GIST and other gastrointestinal tumours. The major types of GIST-associated malignancies reported in literature are: gastrointestinal carcinomas (gastric and colon cancer), lymphoma/ leukaemia, gynaecological carcinomas, and carcinomas of prostate, breast, pancreas, lung, liver, kidney as well as carcinoid of pancreas and stomach[5,6,7,8].

Even if the synchronous occurrence of GIST and Colorectal adenocarcinoma is not extremely rare, little is known about their potential common origin and carcinogenetic pathways [9]. The majority of the coexistent GISTs are discovered incidentally during work-up or during therapeutic procedures for Gastro intestinal malignancies.

Conclusion:

In any case of GIST (with or without preoperative histopathological confirmation), the surgeon should be alert to recognize a possible co-existent tumour with different histological origin and to perform a thorough preoperative and intraoperative control.

The correct diagnosis before and at the time of the surgical procedure is the cornerstone that secures the patients best prognosis.

References:

1. Miettinen M, Lasota J. Gastrointestinal stromal tumours – definition, clinical, histological, immunohistochemical, and molecular genetics features and differential diagnosis. Virchow's Arch. 2001; 438:1-12.
2. Miettinen M, Sarlomo-Rikala M, Sobin LH, Lasota J. Gastrointestinal stromal tumours and leiomyosarcomas in the colon: a clinicopathological, immune-histochemical, and molecular genetics study of 44 cases. *Am J Surg Pathol*. 2000; 24:1339-1352.
3. Fletcher CD, Berman JJ, Corless C, Gorstein F, Lasota J, Longley BJ, Miettinen M, O'Leary TJ, Remotti H, Rubin BP, Shmookler B, Sobin LH, Weiss SW. Diagnosis of gastrointestinal stromal tumours: a consensus approach. *Int J Surg Pathol*. 2002; 10:81-89.
4. Miettinen M, El-Rifai W, L HLS, Lasota J: Evaluation of malignancy and prognosis of gastrointestinal stromal tumors: a review. *Hum Pathol* 2002, 33:478-48
5. Agaimy A, Wunsch PH, Sobin LH, Lasota J, Miettinen CM: Occurrence of other malignancies in patients with gastrointestinal stromal tumors. Semin *Diagn Pathol* 2006, 23(2):120-129.
6. Kover E, Faluhelyi Z, Bogner B, Kalmar K, Horvath G, Tornoczky T: [Dual tumours in the GI tract: synchronous and metachronous stromal (GIST) and epithelial/neuroendocrine neoplasms]. Magy Onkol 2004, 48:315-321.
7. Usui M, Matsuda S, Suzuki H, Hirata K, Ogura Y, Shiraishi T: Somatostatinoma of the papilla of Vater with multiple gastrointestinal stromal tumors in a patient with von Recklinghausen's disease. *J Gastroenterol* 2002, 37:947-953.
8. Ruka W, Rutkowski P, Nowecki IZ, Nasierowska-Guttmejer A, Debiec-Rychter M: Other malignant neoplasms in patients with Gastrointestinal Stromal Tumors (GIST). *Med Sci Monit* 2004, 10:LE13-14.
9. Maiorana A, Fante R, Maria Casinaro A, Adriano Fano R: Synchronous occurrence of epithelial stromal tumors in the stomach: a report of 6 cases. *Arch Pathol Lab Med* 2000, 124:682-686.