



Clinical Profile & Management of Gastrointestinal Stromal Tumor (GIST)

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Abstract

Background: *Gastrointestinal stromal tumor (GIST) is the commonest mesenchymal tumor of gastrointestinal tract. Gastrointestinal bleeding, obstruction, pain and abdominal lump are the common clinical manifestations. Local or segmental resection provides satisfactory results.*

Methods: *Between January 2010 and November 2017, we performed surgery for 14 cases of GIST*

Results: *Resection was completed in 13 cases. In one case definitive surgery was abandoned due to local invasion and metastasis.*

Conclusion: *Non-radical surgery in the form of local or segmental resection is the standard surgical approach for GIST management. Recurrence rate is low and long term survival is satisfactory.*

Keywords: *Gastrointestinal stromal tumor (GIST), Immuno-histochemistry (IHC), CD117.*

Introduction

Gastrointestinal stromal tumor (GIST) is the most common mesenchymal neoplasm of Gastrointestinal tract. It arises from the interstitial cells of Cajal (ICC) which are part of the normal myenteric plexus of autonomic nervous system supplying the gut.^[1]

GISTs can arise from any part of gastrointestinal tract but they are mostly seen in stomach and small intestine presenting commonly with gastrointestinal bleeding, anemia, mass lesion and features of intestinal obstruction.

Understanding of the biological behaviors of GIST has been significantly changed due to identification of its molecular basis in form of mutations in KIT gene (85%), PDGFRA gene

(10%) and BRAF Kinase (rare)^[4]. Approximately 95% of GISTs are positive for CD 117.^[4]

This identification of molecular basis has excluded many undifferentiated carcinomas and malignant smooth muscle tumor from GIST.^[4] Basing on its molecular characteristics and biological behaviors GISTs are now considered as malignant. Hence, all GISTs are subjected to cancer staging by the AJCC (7th edition).^[5] But GISTs have different risk assessments depending on their tendency to recur and metastasize, site of origin, size and mitotic activities.

In absence of specific curative therapy, surgery remains the main modality of treatment of GISTs. Recurrence occurs in high risk patients after surgery although lymph nodal metastasis is very

rare. Systemic metastasis when ever present is mostly seen in liver.

Introduction of TKIs (Tyrosine kinase Inhibitors) in the management has quite beneficial in the treatment outcome of patients with GISTs.

Introduction of TKIs (Tyrosine kinase Inhibitors) like Imatinib mesylate and Sunitinib maleate has made the treatment outcome of patients with GIST quite satisfactory.

Materials & Methods

In this retrospective study, we had included 14 cases of Gastrointestinal stromal tumors from January 2010 to November 2017, presenting with palpable abdominal mass (35%), gastrointestinal bleeding (56%), abdominal pain (28%) and

vomiting (7%). All of them had been advised for upper GI endoscopy, endoscopic biopsy, USG Guided FNAC, Immuno-histo-chemistry (IHC), Chest X-ray in addition to routine investigations.

Out of 14 cases, there were 6 males (43%) and 8 females (57%) in the age group between 32 years to 62 years. All of our cases were proved to be positive for CD 117 on IHC. All of the patients under the study had undergone open conventional laparotomy after the diagnosis of GIST was established. Adjuvant chemotherapy with Imatinib at a dose of 400 mg twice daily had been administered orally for a period of three years after surgery to patients with tumor more than 5 cm in diameter and to locally advanced tumor with metastasis to liver (1 case in this series).

Patient Details

Sl. No	Sex	Age	Site	Presentation	Finding	Meta stasis	Operation	Recur rance
1	M	62	Stomach	Bleeding, Palpable mass	8X8cm mass in fundus		Wedge Resection	No
2	F	36	Stomach	Bleeding	4x4 cm mass in body		Wedge Resection	No
3	M	57	Jejunum	Palpable mass	10x10cm mass near DJ flexure with local invasion	Yes	Exploratory laparotomy	Yes
4	F	42	Duodenum	Bleeding	7x7cm mass near ampula	No	Sleeve Resection	No
5	F	55	Stomach	Bleeding	6x5 cm mass in fundus	No	Wedge Resection	No
6	F	56	Retro peritoneum	Pain, Palpable mass	20x20cm mass in retroperitoneum	No	Resection	Yes
7	M	32	Duodenum	Bleeding	5x5cm mass near ampula	No	segmental Resection	No
8	M	37	Ileum	Bleeding, Palpable mass	15x15 cm mass in mid ileum	No	Segmental Resection	Yes
9	M	44	Ileum	Bleeding	10x10cm mass in ileum	No	Segmental resection	No
10	M	35	Stomach	Pain	8x8cm mass in antrum	No	Wedge Resection	No
11	F	55	Stomach	Pain	7x10cm mass below GE junction	No	Wedge Resection	No
12	F	72	Jejunum	Vomiting	Annular mass 25cm distal to DJ FLEXURE	No	Segmental resection	No
13	F	35	Jejunum	Bleeding, Palpable mass	10X10cm mass 20 cm distal to DJ flexure	No	Segmental resection	No
14	F	40	Stomach	pain	2x2cm mass in antrum	No	Wedge Resection	No

Results

In this study, mass lesion was found in all cases during operation. But their situations were found to be in stomach (42%), jejunum (21%), ileum (14%), duodenum (14%) and retroperitoneum (7%).

Resectional procedures were performed (varying from wedge resection to segmental resection)

depending on the situation of the tumor. Proper attention was given for adequate resection to achieve Ro clearance except in one case where the disease was locally advanced by infiltrating to surrounding structures with hepatic metastasis.

All the patients remained symptom free following surgery without any complications. There was no side effects among patients receiving Imatinib

following surgery as per our criteria mentioned herein. During follow up, three patients developed local recurrence.

Discussion

From the above results, it is seen that Gastrointestinal stromal tumor (GIST) is more prevalent in females than males affecting between fourth and fifth decades of life. It is more common in stomach and small intestine. Commonest presenting feature of these patients is gastrointestinal bleeding followed by abdominal mass.

Surgery in the form of local or segmental resection is the treatment of choice in all the cases. Adjuvant Imatinib therapy for larger (more than 5cm) and locally advanced tumors gives long term tumor free survival in most of the cases.

Conclusion

Surgery followed by Imatinib therapy in selected cases is the standard of care in patients of GIST.

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