Original Research Paper

Volume - 13 | Issue - 04 | April - 2023 | PRINT ISSN No. 2249 - 555X | DOI : 10.36106/ijar

General Surgery

A STUDY ON RETROSPECTIVE ANALYSIS OF GASTROINTESTINAL STROMA TUMOURS.

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ABSTRACT **Introduction:**.Gastrointestinal stromal tumors (GISTs) are the most common mesenchymal neoplasms of the gastrointestinal (GI) tract. They are believed to originate from the interstitial cells of Cajal (ICCs) or from the precursors of ICCs. Most GISTs show an activating mutation in either the c-kit or platelet-derived growth factor receptor alpha (PDGFRA) gene. Tumor size, mitotic rate, and anatomic location correlate with potential malignancy and recurrence rate. **Aim & Objectives-** The aim of our study is to observe the demographic and clinical characteristics of GIST in our clinical environment.Method- 30 patients who are diagnosed with GIST managed during the period from Jun 2017 to July 2022 were reviewed in terms of demographics, clinical presentation, location of tumor, characteristics, management, histopathology, IHC analysis, post op follow up & recurrence.The risk stratification in terms of size, mitotic index, site of tumour was observed & classified using modified NIH classification. Results- Out of 30 cases male patient's- 73% (n- 22); female patients- 27%(n-8). Mean age was 60 years with a range of 44-81 years. Most common clinical presentation was abdominal mass, Abdominal pain. Commonly involved sites are stomach and small bowel.4 cases who underwent multiple organ resection 2 cases developed recurrence in which 1 underwent palliative Whipple's procedure and one was medically managed. **Conclusion-** GISTs are rare entities with a variety of clinical features, Common sites for GIST are stomach & small intestine. Surgery is the main stay of management in GIST. Neo adjuvant therapy will help in down staging the tumour. Wedge resection & resection &anastomosis will be adequate for stomach in small bowel GIST. En-bloc resection should be considered if adjacent structures are involved. Overall GIST has favourable prognosis if diagnosed early.

KEYWORDS : GIST, retrospective.

INTRODUCTION

Gastrointestinal stromal tumors (GISTs) are rare mesenchymal neoplasms located along the entire length of the gastrointestinal wall. GISTs probably originate from the interstitial cells of Cajal [1]While Cajal cells are found mainly in the fundus, the stomach is also the most common location for GIST (60–70%) [2]. The prevalence of GIST ranges from 10 per million of the population annually in Europe to about 20 in Asia, with a peak incidence at age 63 [3]. GISTs represent a wide spectrum of symptoms, ranging from completely asymptomatic to gastrointestinal disorders and varying degrees of aggressiveness based on tumor location, size, and mitotic index [2,3]. We present a retrospective case series of 30 cases of GIST managed in our hospital over a period of 5 years.

CASE STUDY

Place of Study: NRI Medical College and General Hospital, chinakakani. Study population: All patients presented to General Surgery Department of NRI medical college and hospital, chinakakani with 30 patients who are diagnosed with GIST managed during the period from Jun 2017 to July 2022 were reviewed in terms of demographics, clinical presentation, location of tumour, characteristics, management, histopathology, immunohistochemistry analysis, post op follow up & recurrence.

The risk stratification in terms of size, mitotic index, site of tumour was observed & classified using modified NIH classification.

RESULTS

Out of 30 cases male patient's- 73% (n- 22); female patients- 27%(n-8)Age range was 44-81yrs mean age 60.43 yrs.).Most common clinical presentation was abdominal mass – 19Abdominal pain-14Upper/lower GI bleeding-4Other symptoms (anaemia, high colour stools). Out of 12 cases in gastric GIST wedge resection – 4(13.7%) Sleeve gastrectomy 4(13.7%)Partialgastrectomy1(3.4%) Oesophagogastrostomy3(10.3%)For 3 cases of rectal GIST abdominal perineal resection was done(10.3%)Gist involving ileum & jejunum(n-9) cases underwent segmental resection and anastomosis(31%). GIST involving duodenum (n-4) underwent multiorgan resection involving resection of involved liver, pancreatectomy due to infiltration into organs (13.7%). Mesenteric GIST 3.4% (n-1) was found to involve the entire mesentery of small bowel and was highly vascular and was inoperable, patient was started on imatinib, patient died 3 months later the diagnosis was made.

Variables	No of patients
Age 41-60 >60	 16 14
Gender Male Female	 22 7
Symptoms Abdominal mass Pain abdomen Upper Gi bleed Oher symptoms	 19 14 4 1

Grade of tumor	High low	7(23.3%) 22(73.3%)
Size of tumor	2-5cms >5-10cms >10cms	9(30%) 13(43.3%) 8(26.6%)
HPE subtype	Spindle Epithelioid mixed	17(56.6%) 4(13.3%) 8(26.6%)
Margin status	Free involved	27(93%) 2(6.9%)
Mitoses	<5/50hpf 5-10/50hpf >10/50	15 8 6
Necrosis	Present absent	16 13
IHC Markers	CD117 positive DOG1	27 29

In the 30 cases 20 were started on imatinib and the rest didn't receive because of noncompliance or due to side effects.4 cases underwent neo adjuvant therapy with Imatinib 400mg once daily to down stage the tumour. R1 resection was done in 2 cases where the margins were involved and treated with Imatinib 400mg OD for 3 years. Out of 4 patients who underwent multiorgan resection One patient had developed bone metastasis & was managed with Imatinib 800mg OD.one developed liver metastasis and underwent Whipple's procedure as a palliative procedure.

DISCUSSION:

GIST constitutes a distinct group of rare GI tract tumors that originate from the interstitial cells of Cajal.[4] These cells are regulators of gut peristalsis and normally express CD117, a product of the c-kit proto-oncogene that encodes a tyrosine kinase receptor responsible for regulating cellular proliferation in GISTs.[5] in our study also there is equal predominance in stomach and small intestine.4 cases of small intestine GIST presented with GI bleeding with normal upper & lower GI endoscopy. 12of gastric GIST and 13 small bowel GIST were of high grade in our study. The incidence of metastasis GIST in our study was 6.9%Predictors of recurrence are tumour size >5cm, high grade, positive margins.

CONCLUSIONS:

Common sites for GIST are stomach & small intestine. Surgery is the main stay of management in GIST. Neo adjuvant therapy will help in down staging the tumour. Wedge resection & resection & anastomosis will be adequate for stomach in small bowel GIST. En-bloc resection should be considered if adjacent structures are involved. GIST in duodenum and rectum require major procedure like whipples and abdominal perineal resection.

REFERENCES:

1. Min K.W. Gastrointestinal stromal tumor: An ultrastructural investigation on regional differences with considerations on their histogenesis. Ultrastruct. Pathol. 2010;34:174–188. doi: 10.3109/01913121003689075. [PubMed] [CrossRef] [Google Scholar].
2. Rabin I., Chikman B., Lavy R., Sandbank J., Maklakovsky M., Gold-Deutch R., Halpren Z., Wassermann I., Halevy A. Gastrointestinal stromal tumors: A 19-year experience. Isr. Med. Assoc. J. 2009;11:98–102. [PubMed] [Google Scholar]
3. Joensuu H., Hohenberger P., Corless C.L. Gastrointestinal stromal tumour. Lancet. 2013;382:973–983. doi: 10.1016/S0140-6736(13)60106-3. [PubMed] [CrossRef] [Google Scholar]
4. Kindblom LG, Remotti HE, Aldenborg F, et al. Gastrointestinal pacemaker cell tumour (GIPACT): Gastrointestinal stromal tumours show phenotypic characteristics of the interstitial cells. of Cajal. Am J Pathol 1998;152:1259–69.
5. Miettinen M, Sarloma-Eikala M, Lasota J. Gastrointestinal stromal tumours: recent advances in understanding of their biology. Hum Pathol 1999;30:1213–20.