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Clinicopathological Study of Small Bowel and Related Mesenteric Tumour

Authors
Jitendra Sankpal, Yogesh Torkadi, Shubham Gupta, Sushrut Sankpal, Shekhar Jadhav, Mukund Tayade

ABSTRACT
This is clinicopathological and management study of 25 patients in a tertiary care hospital during period from Nov 2013 to Nov 2015 In the study conducted in our Institute, the incidence is 0.25% of all patients admitted in the surgery department over the span of 2 years. In our study, the most common tumour found in small bowel is GIST [40%] followed by adenocarcinoma [20%] and Carcinoid [16%].Differences might be due to small sample size. In our study, the age distribution is from 25-72 years with majority [48%] are in the age group of 50- 59 years and 80% of the patients are above 50 years. This proves the general concenses. In my series, males having small bowel tumours are predominant [68%] as compared to females which is similar as seen in other series conducted In the present study, the most common symptom found in patients with small bowel tumours is abdominal pain [76%], followed by abdominal mass [44%], anaemia [40%], nausea and vomiting [36%] and weight loss [32%]. In my study, ultrasonography, CT scan abdomen, Upper GI endoscopy, barium meal follow through were used for diagnosis and found that CT scan of the abdomen is superior to the other modalities in the diagnosis of small bowel. This finding are similar to findings conducted in other study.

INTRODUCTION

In general, the tumours of small intestine are rare. They are difficult to diagnose because they are usually asymptomatic or present with vague symptoms. If a small intestinal tumour is symptomatic, there is 75% chance that it is malignant and if asymptomatic a 95% chance it is benign. In case of malignant tumours, by the time the diagnosis is made the tumour would already have metastasized.

The symptoms when present are usually mild and chronic. This is because of distensibility of small bowel. Thus intestinal obstruction when present is chronic and intermittent. Bleeding from the tumours, though present in 25% is usually mild.

The useful investigations for diagnosis of other scanning methods like ultrasonography and CT are not very useful in these situations due to the presence of gas within the bowel.

Treatment modality differs depending on the type of tumour, site of the tumour and evidence of metastasis.

Therefore this study is intended to find out:

1) the clinico-pathological presentations of small bowel tumours.
2) the incidence of small bowel and related mesenteric tumours.
3) the managements of small bowel and related mesenteric tumours.
4) the outcome of the treatment on follow up.

AIMS AND OBJECTIVES

1. To study the clinical presentations of the small bowel and related mesenteric tumours.
2. To study the pathology of the small bowel and related mesenteric tumours.
3. To study the incidence of the small bowel and related mesenteric tumours.
4. To study the management of the small bowel and related mesenteric tumours.
5. To study the follow-up of the patients upto 6 months.

MATERIALS AND METHOD

This is prospective clinicopathological study of small bowel and relatrd mesenteric tumpur. All the patients with small bowel and mesenteric tumours admitted to the department of general surgery at our tertiary care centre from the period of June 2013 to June 2016.

INCLUSION CRITERIA

- All patients with small bowel malignant and benign tumours from 1st part of duodenum to the terminal ileum.
- All patients with small intestinal related mesentery tumours.

EXCLUSION CRITERIA

- Patients with lesions in the small intestine which are not the primary tumours.
- Patients with 'Periampullary Carcinomas'.
- Patients with Ileo-caecal junction carcinomas.

METHOD OF COLLECTION OF DATA

In this clinico-pathological study of small bowel and the related mesentery, a total of 25 patients were evaluated which got admitted in Grant Govt Medical college and JJ Group of Hospitals during a period of 2 years from June 2013 to June 2016 with the same diagnosis. The relevant data is obtained from patient interviews, clinical examination, investigations, review of patient record and questionnaire.

Preoperative investigations specific to small bowel tumour diagnosis ie. Ultrasound abdomen, CT Scan abdomen, Upper GI endoscopy, Colonoscopy, Barium meal follow through and histopathological confirmation of the operated specimen or endoscopic biopsy and routine blood investigations ie. CBC, RFT, LFT are performed on the patients and has been included in the study.

This study contains intervention with respect to the diagnosis and need for treatment ie resection or debulking of the tumourous part, end to end anastomosis of the healthy bowel, endoscopic extraction of the growth and chemotherapy. Postoperative complications have been noted and evaluated.

These patients were followed up for a period of six months and they are assessed with regard to the specific treatment given to the respective cases.

RESULT AND DISCUSSION

A total number of 25 patients of small bowel and related mesentery tumours admitted in our Institute during a period of June 2013 to June 2016 were analysed.

INCIDENCE

Small bowel tumour is a rare disease. According to the population based study done by Chow and Clark et.al.: SEER 1973- 1990[1] the average annual incidence of malignant small bowel tumours is 9.9 per million population. Also the American Cancer Society .Cancer facts and figures 2007 states that malignant small bowel tumours are 0.3% of all malignancies and 2% of all GI malignancies[2].

In the study conducted in our Institute, the incidence is 0.25% of all patients admitted in the surgery department over the span of 2 years.

The above finding coincides with the population based studies.

The most common malignant tumour subtype is adenocarcinoma and carcinoid. The Haselkorn et.al[3] reviewed the SEER database of National Cancer Institute from 1973- 2000, and found an

overall increase in the incidence of adenocarcinoma [35%] and carcinoid tumours [32%] in the small bowel. Hatzaras et.al[4] also states that adenocarcinoma [27%] and carcinoid [33%] are the most common small bowel tumours. Comparing other large population based studies Chow and Clark et.al[1], Ross et.al 5,
Weiss and Yang et.al, Gabos et.al[6], Disario et.al, the incidence of adenocarcinoma is 24-44%, carcinoid is 20-42%, GIST 7-9% and Lymphoma is 12-27%.
In our study, the most common tumour found in small bowel is GIST [40%] followed by adenocarcinoma [20%] and Carcinoid [16%]. Differences might be due to small sample size.

AGE INCIDENCE

It has been noticed that the small bowel tumours is a disease of old age.
According to Chow and Clark et.al. SEER[1] 1973-1990 series, over 90% of males and 95% of females were over 40 yrs of age. Similarly the 11 year review of primary small bowel tumours by R.J. Hancock states that two thirds of the patients were above 50 years and 6th decade was the most common. The benign tumours are also most commonly found in the older age group according to Wilson and David et.al. A case study with 96 patients of malignant small intestinal tumours conducted by the same group showed that the average age of all patients was 53 years and most of the patients were above 50 years of age.
In our study, the age distribution is from 25-72 years with majority [48%] are in the age group of 50- 59 years and 80% of the patients are above 50 years. This proves the general concenses.

SEX INCIDENCE

In my series, males having small bowel tumours are predominant [68%] as compared to females which is similar as seen in other series conducted by Chow and Clark et.al., Gupta et.al. conducted in Banaras Hindu University. Some studies show equal sex distribution such as R.J. Hancock et.al. and Wilson and David et.al.

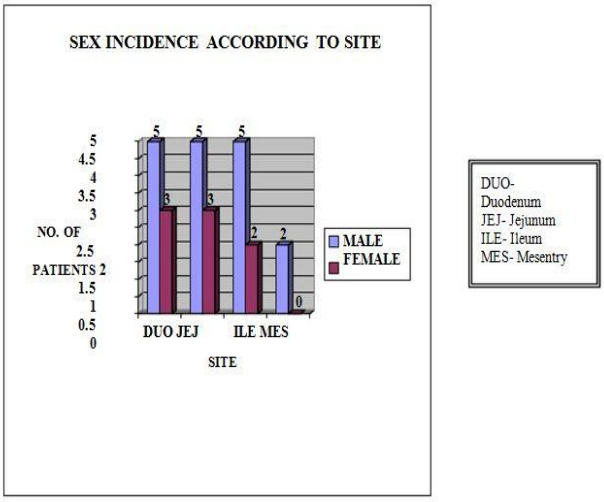

Fig-1

INCIDENCE OF TUMOURS ACCORDING TO SITE

ADENOCARCINOMA – The incidence of adenocarcinoma is most common in the ileum in my series whereas in major population based studies ie Chow and Clark et.al SEER 1973-1990, Richard and Maryjean et.al , Ross and Harnett et.al , Gabos and Berkel et.al adenocarcinomas are most commonly found in the duodenum.

CARCINOID – The most common site of carcinoid is duodenum in my series. But ileum is stated to be the most common site for carcinoids according to the major population based studies ie Chow and Clark et.al SEER 1973-1990, Richard and Maryjean et.al , Ross and Harnett et.al, Gabos and Berkel et.al

GIST – The most common site of GIST is jejunum found in our study and also in other series namely Chow and Clark et.al SEER 1973-1990, Richard and Maryjean et.al, Neugut and Jacobson et.al., Gabos and Berkel et.al

LYMPHOMA – 1 case of lymphoma included in my series is found to be in ileum. Most common site of lymphoma is ileum as shown by other studies Chow and Clark et.al SEER 1973-1990, Gabos and Berkel et.al

BENIGN TUMOURS – benign tumours are most commonly found in ileum according to Gupta and Gupta et.al. In my series the most common site found is duodenum.

OVERALL SMALL BOWEL TUMOURS – they are most commonly noticed to be in jejunum in my series whereas according to Gupta and Gupta et.al the most common site is Ileum.

CLINICAL FEATURES

In the present study, the most common symptom found in patients with small bowel tumours is abdominal pain [76%], followed by abdominal mass [44%], anaemia [40%], nausea and vomiting [36%] and weight loss [32%].

This finding is similar to that found in population based large studies. According to Gupta and Gupta et.al most common symptom is Abdominal pain [64%] followed by weight loss [62%] and abdominal mass [53%]. According to R.J. Hancock et.al abdominal pain is the most common sign followed by anemia and abdominal mass.

Devita [text book of oncology] states that the most common symptom of adenocarcinoma is obstruction ; that of carcinoid is abdominal pain; GIST is GI bleed and lymphoma is abdominal pain. In my series, 60% of patients presenting with intestinal obstruction and peritonitis had adenocarcinoma. 60% of patients presenting with GI bleeding in the form of malena or having anemia had GIST. Most patients having carcinoid tumor presented with abdominal pain

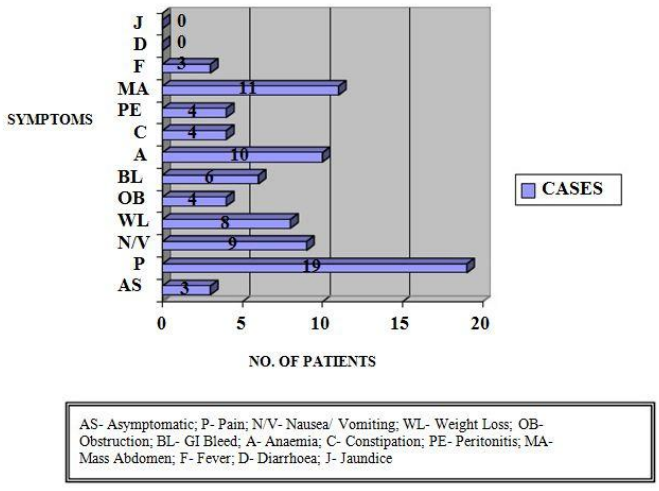

Fig-2

INVESTIGATION

Small bowel tumours are difficult to diagnose pre operatively. Investigations such as ultrasound abdomen, barium meal follow through are neither sensitive nor specific for small bowel tumour diagnosis. Dudiak et.al shows CT scan abdomen (I.V. and Oral contrast) is 60% sensitive in diagnosis of adenocarcinoma, 58% for lymphoma and 33% for carcinoids. Similar results were repr-oduced in the study conducted by Buckley et.al

Double contrast small bowel enteroclysis is 95% sensitive in detecting direct or indirect evidence of small bowel tumour. This was shown in study conducted by Bessette JR and Maglinte D et.al. Puleul et.al stated that CT enteroclysis is 84.7% sensitive and 96.9% specific in diagnosis of small bowel tumours.

Capsule enteroscopy is found to be superior in diagnosing small bowel tumour as stated by Levis et.al; Adam and Henry et.al.

In my study, ultrasonography, CT scan abdomen, Upper GI endoscopy, barium meal follow through were used for diagnosis and found that CT scanof the abdomen is superior to the other modalities in the diagnosis of small bowel

TREATMENT

The most favoured treatment for small bowel tumour is resection and anastomoses of the involved segment of intestine. In a study carried out by R.J. Hancock out of 153 patients, 87 underwent surgical treatment, out of which 25 underwent resection anastomosis, 26 bypass or biopsy only, 14 only local excision, 13 right hemicolectomy and 9 whipples resection. In the study conducted by Gupta and Gupta et.al., out of 58 cases, 40 underwent resection anastomoses, 7 Bypass procedures and 11 only biopsy.

In our study, out of 25 patients, 19 underwent surgery out of which 15 had resection anastomoses, 1 had Billroth II and Gastrojejuno-stomy, 1 had ileocaecal resection and 2 had excision of the tumour. 4 patients out of the total 25 patients, had endoscopic extraction of the tumour.

CONCLUSIONS

In this study of small bowel and related mesenteric tumours conducted over a period of 2 years at our Institute , the following conclusions were drawn:

1) Small bowel and related mesenteric tumours is a rare disease.
2) The incidence is most common in 50-59 years age group.
3) The disease is more common in males.
4) The most common symptom in patients with small bowel tumours is Abdominal Pain.
5) Intestinal Obstruction occurs most commonly in Adenocarcinoma as compared to other tumours.
6) Gastrointestinal bleeding and anemia occurs most commonly in patients with GIST.
7) Most patients with carcinoid tumour present with abdominal pain.
8) Benign tumours are mostly asymptomatic.
9) Malignant tumours are more common as compared to benign tumours.
10) GIST is the most common malignant intestinal tumour
11) Tumours of the small intestinal mesentery are rarer than that of small intestine.
12) Adenocarcinomas are most commonly present in ileum. Carcinoids are most commonly found in duodenum. GIST is commonly found in jejunum. Lymphoma commonly found in ileum. Benign tumours most commonly present in duodenum. Overall small bowel tumours are most commonly found in jejunum.
13) Small bowel tumours are commonly diagnosed preoperatively and operated electively. Emergency presentations and operations are less common.
14) Most useful diagnostic investigation is CT Scan abdomen [IV and oral contrast].
15) Surgical resection and primary end-to-end anastomosis is the treatment of choice.
16) Chemotherapy has a beneficial role in GIST.
17) Prognosis of the patients having small intestinal tumour is good.

REFERENCES

1. Chow JS, Chen CC, Ashan H, Neugut AI.A population based study of the incidence of malignant small bowel tumours:SEER,1971 to 1990 Int J Epidemiology 1996, 722
2. American cancer society. Casncer facts and figures 2007.Atlanta cancer society 2007
3. Haselkom T , Whittemore AS , Littenfield DE .Incidence of small bowel cancer in the united states and worldwide, geographical, temporal and racial differences . Cancer causes control 2005, 16 (7):781
4. Hatzaras I , Palesty JA , Abir F, et al.small bowel tumours epidemiological and clinical characteristicsof 1,260 cases from the connecticut tomour registry Archsurg 2007,142 (3)229
5. Ross RK, Hartnett NM, Bernstein L, Henderson BE, Epemiology of adenocarcinoma of the small intestine:is a bile a small bowel carcinogen ?Br J Cancer 1991:63 (1)143
6. Gabos S Barkel J, Band P , Robson D, whittakar H.samll bowel cancer in western canada Int J Epidemioly 1993:22(2):198.