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A retrospective observational study on surgically resected gastrointestinal tumors

Rahul Dasgupta
MBBS, PGT (MS General Surgery) Burdwan Medical College and Hospital

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ABSTRACT

Background: Tumors of the Gastrointestinal tract are major problem in oncology and also are a major cause of apprehension in patient with the abdominal complaint. There is variation in the distribution of these neoplasm, largely due to exogenous factors rather than genetic.

Objectives: To determine the relative frequency of various histopathologic types of tumors of eosophagus, stomach and intestines, and knowledge about their prognosis will aid the clinician in effective management of patient.

Methodology: previous Biopsy reports were analysed statistically to determine mine the type , frequency and location of GIT neoplasms.

Results: Gastrointestinal tumor distributed throughout all age group with maximum in 5th and 6th decade of life with male:female ratio was 1.67:1. Out of 36 cases of esophageal tumors, 32 were of squamous cell carcinoma, 2 case of adenosquamous carcinoma and 2 case of basaloidsquamous carcinoma. Majority of cases of gastric tumors occurred in pylorus followed closely by body of the stomach. Out of 36 cases of colorectal carcinoma, 24 cases were adenocarcinoma, 6 were mucinous adenocarcinoma, 4 cases of Signet ring cell carcinoma and 2 case of Malignant melanoma.

Conclusion: Tumors of the gastrointestinal tract show a wide variation in the histological type making the histopathological examination a must in the diagnosis of these tumors. Early diagnosis and treatment is beneficial for better management and is imperative in providing better quality of life to the patient.

Keywords: Gastrointestinal track tumor, Histopathological examination, GIT neoplasm

I. INTRODUCTION:

Gasrointestinal tract are some of the common neoplasms encountered in India. They demonstrate an array of histological patterns, varied clinical presentations, an assortment of gross patterns and an immense variability in their prognosis. They also show marked geographic variation in the anatomical sites involved. The neoplastic lesions of the Gastrointestinal Tract vary in different segments . Histopathological changes in various neoplastic lesions of the gastrointestinal tract helps in proper diagnosis and deciding the mode of treatment to be offered to the patient.There is world wide variation in the distribution of these neoplasm [1]. Colorectal cancer ranks second and stomach cancer ranks fourth among the most common tumors of the world, according to the World Cancer Report of 2000 [2]. Small intestine is an uncommon site for tumor despite its great length and vast pool of dividing cells . Gastrointestinal tumors account for a large proportion of all neoplasms [3]. The tumors of the Gastrointestinal tract are major problem in oncology and also are a major cause of apprehension in patient with the abdominal complaint in whom the fear of the malignancy is the greatest. Histopathological examination along with clinical findings and other diagnostics techniques helps to confirm the final diagnosis of various tumors of the GIT. This study is undertaken to determine the relative frequency of various histopathologic types of tumors of eosophagus, stomach and intestines, and knowledge about their prognosis will aid the clinician in effective management of patient.

II. MATERIALS AND METHODOLOGY :

It was a retrospective observational study carried out over a period of 12 months.

Inclusion and exclusion criteria: All biopsies and resected specimens of GIT with neoplastic lesions were included in the study. While specimens of GIT without any tumor or tumor like lesions were excluded. And also endoscopic biopsy bit which is too small which may not come in block were excluded.

Data was collected from previous records, Statistical analysis was done using Microsoft excel.

III. RESULTS

According to inclusion and exclusion criteria total 96 cases could be enrolled in the study during one year. Age wise distribution shows Tumors of esophagus, stomach and large intestines had wide variation in age distribution. And among

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them 5th and 6th decade of life had the highest occurrence of gastrointestinal carcinoma with total 54 [56%] cases. [Table 1] The study showed there was a male predominance with the male to female ratio of 1.6 :1 [Table 2].

Table 1.Age wise distribution of all cases.

Age (years)	Esophagus	Stomach	Small intestine	Colon& rectum	Anal canal	Total (%)
11-20	-	-	-	2	-	2(2.08)
21-30	2	-	-	6	-	8(8.3)
31-40	2	2	-	4	4	12(12.5)
41-50	14	6	2	6	-	28(29.1)
51-60	14	4	-	8	-	26(27.08)
61-70	4	-	-	8	2	14(14.5)
71-80	-	-	2	2	2	6(6.2)
Total	36	12	4	36	8	96(100)

Table 2.Gender wise and anatomical distribution

Site	Male	Female	Total
Esophagus	26	10	36(37.5)
Stomach	8	4	12(12.5)
Small intestine	2	2	4(4.2)
Colon, rectum	20	16	36(37.5)
Anal canal	4	4	8(8.3)
Total	60	36	96(100)

Majority (94%) of the cases were of epithelial origin while the mesenchymal tumors and lymphomas constituted 6.2%. [Table 3].

Table-3: Histological types of tumors of GIT

Site	Esophagus	Stomach	Small intestine	Colon Rectum	Anal canal	Total(%)
Epithelial	36	8	4	34	4	90(93.9)
Mesenchymal	-	2	-	2	-	4(4.1)
Lymphoma	-	2	-	-	-	2(2.0)
Total	36	12	4	36	4	96(100)

Out of 36 cases of esophageal tumors, 32 were of squamous cell carcinoma, 2 case of adenosquamous carcinoma and 2 case of basaloid squamous carcinoma [Table 4].

Table-4: histological variant tumors of various sites.

Tumor variant & Location	Number
Esophagus	
Adenocarcinoma	-
Adenosquamous Ca	2
Squamous cell carcinoma	32
Basaloid squamous cell carcinoma	2
Stomach	
Adenocarcinoma	6
Signate cell type	2

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DLBCL(Diffuse large Bcell lymphoma)	2
GIST	2
Small intestine	
Adeno Ca	4
Colon & rectum	
Adeno Ca	24
Mucinous adeno Ca	6
Signate cell type	4
Malignant melanoma	2
Anal canal	
Adeno Ca	6
Mucinous andeno Ca	2
Total	96

Majority of cases of gastric tumors occurred in pylorus (6) followed closely by body of the stomach (4) . Most of the tumors were seen on the luminal aspect as a firm and necrotic lesion. Also 2 lesion was ulceroinfiltrative and 2 lesion was nodular. Out of 12 cases of gastric tumors, 8 were of adenocarcinoma constituting 66.6%. The other 2 case of diffuse large B cell lymphoma and 2 case of Gastrointestinal stromal tumor (GIST) constituting 33.3% [Table 4]. Only 4 cases of small intestinal tumors were seen. 2 were located in the ileocaecal segment and other 2 were located in the duodenum. Male to Female ratio is 1:1 with their age being 50 and 75 years. All 4 cases were of Adenocarcinoma, moderately differentiated type. Rectum was the commonest site constituting 44.44% of colorectal malignancies colorectal tumors. Grossly most of the cases (10) presented as an ulcero infiltrative lesion, while 4 cases were exophytic and 2 case were fungating. Out of 36 cases, 24 cases were adenocarcinoma. The others were 6 cases of mucinous adenocarcinoma, 4 cases of Signet ring cell carcinoma and 2 case of Malignant melanoma [Table 4]. Grossly lymphnodes were identified in 18 cases while metastasis was seen only in 8 cases on microscopic examination. Of the 8 cases of anal canal 2 (25%) case were mucinous adenocarcinoma and 6 cases(75%) were Adenocarcinoma, moderately differentiated type.

IV. DISCUSSION

Gasrointestinal tract are some of the common neoplasms encountered in India. They demonstrate an array of histological patterns, varied clinical presentations, an assortment of gross patterns and an immense variability in their prognosis. They also show marked geographic & anatomical variation. Considering the variables involved, it would be justified in undertaking an in-depth study into neoplasms of Gasrointestinal tract.

A total of 96 cases were studied from March 2021 to March 2022 . Tumors of GIT were seen over a wide range of age (12 years to 80 years). The highest distribution was found in the 5th decade, which was consistent with the study by Prabhakar et al [6]. A male predominance was observed in this study with a male to female ratio of 1.67:1. In the present study, the most common site for malignant tumor was the Large intestine constituting 45.84%, followed by tumors of Esophagus which constitutes 37.5% of the cases. In present study, 77.78% of esophageal tumors were in the age group of 40-60 years. Leena Devi et al [4] in 1980 reported a maximum number of cases i.e. 33.8% were in the age group of 51-60 yrs. Mohammed et al [7] in 2006 reported a maximum number of cases were in the age group of 21-30 yrs. Ahmed Mohammed Afroz et al [5] in 2012 reported a maximum number of cases i.e. 44.11% were in the age group of 61-70 yrs. According to the histology in the present study, 88.88% cases were squamous cell carcinoma, 2 cases (5.56%) cases was adenosquamous carcinoma and 2 cases (5.56%) cases was basaloidsquamous carcinoma. In the present study 5.56% cases of adenosquamous carcinoma were reported in the esophagus. Gal et al [9] reported 3.48% cases of adenosquamous carcinoma in the esophagus. Age distribution shows that 50% cases of gastric tumor were present in age range of 41-50 years. In the study M.Lavanya et al [8], 2012, 37.57% cases being reported in the age range of 41-50 years. In the study Ahmed MohammedAfroz et al [5], 46.67%% cases being reported in the age range of 41-50 years. Thus the tumors of the stomach are commoner in 41-50 years of age group and the result of the present study are similar with studies of M. Lavanya et al [8], 2012 and Ahmed Mohammed Afroz et al [5]. In the present study, 66.67% cases were adenocarcinoma, 16.67% cases were diffuse large B cell lymphoma, and 16.67%

cases were GIST.Out of 4 cases of adenocarcinoma, 2 cases 16.67% was belonged to the signet ring variety. Mohammed et al [7], 2006 reported adenocarcinoma to be commonest tumor of the stomach. Lewin et al [10] in 1978 reported 48% cases of lymphoma, and M. Lavanya et al [8] reported 12.5% cases of lymphoma. Small intestinal tumors are relatively rare and constitute only 3-6% of all gastrointestinal tumors in spite of constituting 75% of the length and 90% of the mucosal surface of the alimentary tract. Only 4 cases were reported in the present study (4.16% of all cases), first was in the ileum and the age was 50 year. Second was in the duodenum and the age was 75 year. In conformity with study by Shahid Jamal et al, [12] there was a male predominance (M:F2.6:1) and the common site of occurrence of lymphoma was ileum. The study done in China by Zhi-Wei et al [11] showed a male predominance with average age of occurrence being 47 years. Leiomyosarcoma has the highest occurrence followed closely by adenocarcinomas, and the commonest site of occurrence being the ileum. In the present study, 36 cases were from the colorectal region constituting the 37.5% of all cases. Thus the maximum number of cases in the present study were in the age range of 51-70 years. M.Lavanya et al [8] in 2012 reported maximum cases in 51-60 years age range. According to the histology in the present study, adenocarcinoma accounted for 94.44% of 36 cases studied in the large intestine. Only 2 cases (5.56%) was Malignant melanoma. Only 8 cases of tumor of anal canal region was reported 8.34% of all cases. Out of them 6 (75%) cases were adenocarcinoma and 2 (25%) cases were mucinous adenocarcinoma. They were reported in the age range of 31-75 years.

V. CONCLUSION

Gasrointestinal tract are some of the common neoplasms encountered in India. They demonstrate an array of histological patterns, varied clinical presentations, an assortment of gross patterns and an immense variability in their prognosis. Tumors of the gastrointestinal tract show a wide variation in the histological type making the histopathological examination a must in the diagnosis of these tumors. Early diagnosis and treatment is beneficial for better management and is imperative in providing better quality of life to the patient.

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