



ORIGINAL RESEARCH PAPER

Pathology

CLINICOPATHOLOGICAL SPECTRUM OF GASTROINTESTINAL MALIGNANCIES-A 5 YEARS EXPERIENCE IN A TERTIARY CARE CENTRE,TAMILNADU

KEY WORDS: GI malignancy, endoscopy, colonoscopy, histopathological diagnosis

Dr. Amarapathy Sivasankar

MS.,MCh (SGE)., DNB (SGE) Associate Professor, Department of Surgical Gastroenterology, Govt Mohan Kumaramangalam Medical College, Salem, Tamilnadu, India

Dr. Vajravelu Jayanthi*

MD(Pathology) Associate Professor, Department of Pathology, Govt Dharmapuri Medical College, Dharmapuri, Tamilnadu, India *Corresponding Author

ABSTRACT

BACKGROUND: Gastrointestinal (GI) malignancies have become a major health burden throughout the world particularly in the developing countries with varied epidemiology from place to place.
AIM: To analyse age,sex,site of involvement and histopathological diagnosis of gastrointestinal malignancies in a tertiary care centre ,Tamilnadu.
MATERIALS AND METHODS: Patients who were histopathologically diagnosed to have GI malignancies during a period of 5 years from January 2014 to December 2018 were included in our study.
RESULTS: Out of 603 patients,364 were male and 239 were females with male:female ratio of 1.5:1.Most affected age group was between 61-70 years. Colorectum was the commonest site of involvement by malignancy. Adenocarcinoma was the most commonly diagnosed type of GI cancer.
CONCLUSION: Early diagnosis by endoscopy and colonoscopy followed by histopathological confirmation play a crucial role not only in starting effective treatment of patients suffering from GI malignancies but also in their prognosis.

INTRODUCTION:

Malignancies have become the leading cause of morbidity and mortality worldwide.The cancer burden has increased significantly in the developing countries¹.Cancer is the second commonest disease responsible for 0.3 million deaths annually in India².The prevalence of cancer not only varies between various countries but also between different parts of the same country.This necessitates the understanding of demography and epidemiology of cancer in a particular region so that better functioning of healthcare system is possible³.Among all organs,Gastrointestinal tract malignancies are responsible for more cancer related mortality ⁴.In India,Gastrointestinal cancers constitute 20% of cancer burden^{4,5}.The present study aims to determine the age,sex,site of occurrence and histopathological diagnosis of malignancies involving the gastrointestinal tract from Esophagus to Anal canal.

MATERIALS AND METHODS:

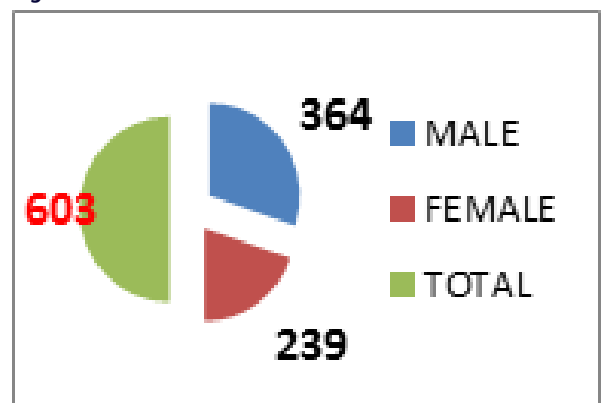
This is a five year retrospective study from January 2014 to December 2018,conducted in a tertiary care hospital in Tamilnadu.All patients who were histopathologically diagnosed to have Gastrointestinal malignancy were included in our study.The age,sex,site of occurrence of malignancy and histopathological diagnosis were tabulated and analysed.

RESULTS:

This study included various Gastrointestinal (GI)malignancies reported in the department of pathology.Out of 603 cases 364 were male and 239 were female patients.The male:female ratio was 1.5:1.The mean age was 57.1 years.The maximum age group involved was between 61-70 years.The youngest patient was 23 years old female,diagnosed to have moderately differentiated Squamous cell carcinoma of Esophagus and the oldest patient was 85 years old male,diagnosed as Moderately differentiated Adenocarcinoma of Rectum.Among the 603 cases,most common site of occurrence of malignancy was Colorectum(191/603) followed by Esophagus (167/603), Stomach. (148/603) and Periapillary region(46/603).Out of the 191 Colorectal malignancies,Rectum was most commonly involved. (126/191).The overall incidence of GI malignancy is on the increasing trend from 2014 to 2018.58 GI cancers cases were reported in 2014,92 cases in 2015,134 cases in 2016,146 cases in 2017 and 173 cases in 2018.Most common histopathologically diagnosed carcinoma was Adenocarcinoma 389/603, followed by Squamous cell carcinoma(159/603).Other malignancies reported were mucinous

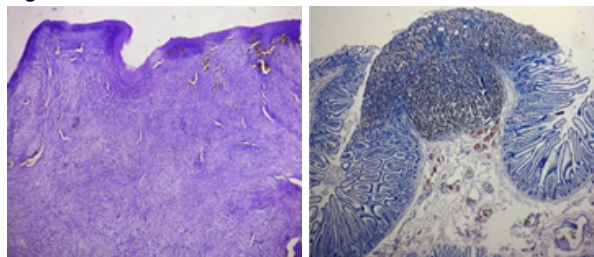
adenocarcinoma(16 cases),Gastrointestinal stromal tumours (10 cases), Neuroendocrine tumours(4cases),Non Hodgkin lymphoma(5cases),Malignant Melanoma(3cases),1 case of Basaloid SCC,1 case of Goblet cell carcinoma and 2 cases of Small cell carcinoma.Among the 13 Hepatobiliary tract malignancies 5 primary Hepatocellular Carcinoma,6 Secondary HCCs from Adenocarcinomatous deposits were reported.One case of well differentiated Adenocarcinoma of Gall blader was reported.Among the 389 Adenocarcinomas diagnosed,196 were Moderately differentiated (Grade II of WHO) constituting 50%, and among 159 cases,129 were Moderately differentiated Squamous cell carcinomas contributing to 81%.

Figure 1



DISCUSSION: The mean age of affected patients in our study was 57.1 years where as it was 56 years in the study conducted by Meera.S.Mahajan et al⁵.In our study, the most commonly affected age group was 61-70 years ,silimar to the observation by Jamal S et al in 2005⁵.The second commonest age group involved in our study was between 51 -60 years and the male:female ratio was 1.5:1 which is comparable to the study of Meera.S.Mahajan et al in 2017 ⁵. Most commonly diagnosed histopathological malignancy was Adenocarcinoma with 387 cases followed by Squamous cell carcinoma constituting 159 cases.Majority of Adenocarcinomas were diagnosed in Colorectum,Stomach, Periapillary region and Anal canal,and majority of Squamous cell carcinomas were diagnosed in Esophagus.This is in concordance with the observations of Abdulkareem ⁷ and Meera.S.Mahajan⁵.

Figure 2

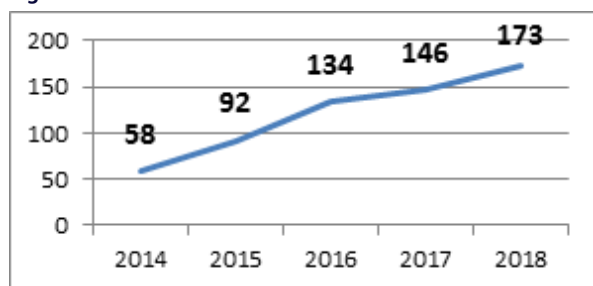


GIST IN ESOPHAGUS

METASTATIC MALIGNANT MELANOMA IN ILEUM

The increasing incidence of GI malignancies in the recent 5 years from 2014 to 2018 observed in our study correlates with the study conducted by Patel Mandakini M et al⁸. This could be attributed to many factors like change in the food habits due to industrialization and urbanization, recently advanced diagnostic modalities especially in the field of Radiology and Gastroenterology, uprise of fastfood restaurants serving low fibre containing foodstuffs.

Figure 3



During our overall 5 year study period, the most common GI malignancy in our study was Colorectal Adenocarcinomas 191/603(31.6%) which correlates with other studies^{9,10}. Among the 191 Colorectal malignancies, Rectum(n=126,65.9%) was most commonly involved followed by Sigmoid colon (n=31,16%). This was similar to the study of Patra.T et al¹¹. Among the Adenocarcinomas, Moderately differentiated Grade II tumours outnumbered the Well and Poorly differentiated Adenocarcinomas. This correlated with the study of Parikh et al¹². Periampullary region was involved in 46/603 cases and body of pancreas was involved in 6 cases. 1 case of metastatic malignant melanoma was reported in the Ileum. Though Anal canal tumours occur throughout the world, it is more commonly encountered in Brasil and India¹². In our study we had 25 anal canal cancers of which 11 were Adeonocarcinomas (44%) and 9 were(36%) Squamous cell carcinomas. 1 case of Malignant Melanoma and 4 cases of Mucinous Adenocarcinoma were reported in the Anal canal. Incidence of Melanoma was 4% in our study similar to the observation by Klas JV et al¹³. Among the 10 cases of GIST, 8 were reported in Stomach, 1 each from Esophagus and Jejunum. This was similar to the study of Jossephine Issakov MD e al¹⁴.

CONCLUSION: Due to the broad variation in the histomorphogy, the accurate histopathological diagnosis of GI malignancies is the need for the hour. This is not only essential for confirming the clinical diagnosis but also for the early treatment of the patients. It is very important to detect early stage cancers by endoscopy and coloscopy combined with the histopathological examination which plays a vital role in helping the clinicians to start treating the patients at the earliest thereby decreasing the cancer related morbidity and mortality among patients suffering from GI tract malignancies.

REFERENCES:

1. Jemal A, Siegel R, Ward E, Murray T, Xu J, Thun WJ. Cancer Statistics 2007. *Cancer Journal Clin.* 2007; 57:43-66
2. Charusheela R, Gore, Indranil Dey, Heush Kumar, Kushal Shah, Ishitha Guleti. Recent trends in histopathological spectrum of malignancies among females in Western Maharashtra. *Indian Journal of Pathology and Oncology.* Oct-Dec, 2018; 5(4):598-608
3. Alil, Wani WA, Saleem K. Cancer scenario in India with future perspectives. *Cancer therapy* 2011; 8: 56-70

4. N.S.Ghadyalpatil S, Chopra, .P Patel, A.Dsouza, A.Saklani Gastrointestinal cancers in India: Treatment perspective, *South Asian Journal of Cancer*, 5(3), 2016, 125-136
5. Meera Shantharam Mahajan, Neha Amrut Mahajan, Shrinivasan Shankar rao Kala, Chanadraseshkar Prabhakar Bhale. Histopathology of Gastrointestinal tract malignancies, A 2 year Retrospective study. *Annals of Pathology and Laboratory Medicine.* Volume 4, issue 4, July-Aug 2017
6. Jamal S, Mamoona N, Mushtaq S, Luqman M. Analysis of Gastrointestinal malignancies at Armed forces institute of Pathology, Ravalpindi, Pakistan, *Asia Pacific Journal of Cancer Prevention*, 2005; 6: 497-500
7. Abdulkareem FB, Abudu EK, Awolola NA et al. Carcinoma in Lagos and Sagamu, Southwest Nigeria. A histopathological review. *World Journal of Gastroenterology* 2008; 14(42):6531-6535
8. Patel Mandakini M, Gamit Bhavana, Patel Prashant R. Analysis of Gastrointestinal Malignancy: A five year study. *National Journal of Community Medicine* Volume 3 issue 3 July-Sep 2012
9. Nassima Chandra, A.R. Khan et al. Histopathology of Gastric Cancer in Kashmir-a 5 year Retrospective analysis. *J.K. Science.* Jan-March 2001; 9(1):21-23
10. Biren J Parikh, Swati B Parikh. Histopathological spectrum of gastrointestinal tumours. *NJIRM* 2016; Vol7(2) March-April eISSN:0975-9840. PISSN:2230-9969
11. Tapas Patra, Syam Sundar Mandal, Neyaz Alam, Nebendu Murmu. Clinicopathological trends of Colorectal carcinoma patients in a tertiary care centre in Eastern India. *Clinical Epidemiology and Global Health.* 6(2018)39-43
12. Gupta Asheeshkumar, Gupta Achal, Gupta Akashara et al. Cancers of Anal canal: A review article. *International Journal of Medica l Science: Research and Practice.* Volume 2 issue 2 2015
13. Klas JV, Rotherberger DA, Wony WD, Madoff RD. Malignant tumours of the anal canal: the spectrum of disease, treatment and outcomes. *Cancer* 1999; 85: 1686-93
14. Jossephine Issakov, Irinea Jiveloul, Ido Nachmary, Joseph Klausner, Ofer Mermisky. A Histopathological review of Gastrointestinal related Mesenchymal tumours: The Hidden GIST. *IMAJ* 2007; 810-812