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Surgery

A CLINICOPATHOLOGICAL STUDY OF STOMACH CARCINOMA IN A TERTIARY CARE HOSPITAL OF CENTRAL INDIA

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ABSTRACT

Introduction: The incidence of gastric cancer varies in different part of world. It is a serious problem as it involves development of malignancy in stomach and affected by with daily life style and habits. The present study was carried out at tertiary care centre of districts of Vidarbha region of Maharashtra and neighborhood districts of Andhra Pradesh and Madhya Pradesh for study of this pathology.

Aims: To study the clinical and pathological presentations of the stomach malignancies.

Study design: Study and collection of data were assessed by examination of one hundred and seven patients suffering with the gastric carcinoma over a period of six years.

Results: Male to female ratio was 1.22/1. Mean age of incidence was assessed as nearly 55 years. Smoking, alcohol, mixed diet, weight gain, positive family history and history acid peptic disease were common risk factors. Most accountable symptom was abdominal pain, followed by vomiting. Lump in abdomen and nausea were some other symptoms. Antrum was most common site of malignancy observed in more than 50% cases. Cardia, pylorus and fundus were involved in 17, 14 and 03 patients.

Conclusion: Carcinoma stomach is a serious and often undetected disease in population of Central India. Workup for the same should be done in all middle aged patients of upper gastrointestinal symptoms who have high degree of suspicion.

KEYWORDS : Nagpur, Gastric Carcinoma, abdominal pain, life style

Introduction:

Cancer is the chief liability of the medical scientist as it is a second to CVS disorder for higher mortality rate. Among various sites of cancer, stomach is very leading site, and achieved second leading cause of cancer death (1,2). Ratio of prevalence varies in different parts of world. It has achieved fifth most common cancer among males and seventh most common cancer among females in India (3). Prevalence is high in Japan, Korea, and China, as well as Central and South America (4). Rate of incidence for gastric cancer are lesser in India than rest of countries. Even rate of incidence, varies in India due to diverse culture and related life style and food habits (5). The National Cancer Registry Programme among urban registries was conducted in India in the year 2010. Mean age adjusted rate (AAR) of gastric cancer were calculated to be varied from 3.0 to 13.2. Chennai registry was at the peak high. Population based cancer registries in India in the year 2006 – 2008 reveals that gastric cancer is one of the five leading cancer in male in most of major cities like Bangalore, Chennai, Dibrugarh, Kamrup Urban, Kollam, Dindigul, Aizawl, Mizoram, Sikkim simultaneously among females it is the third most common cancer in Barshi, Chennai, Mizoram and Sikkim. Prevalence of gastric cancer also reported in Nagpur with the male to female ration of 1.7:1 in same period (5). Population with blood group A is highly prone to gastric cancer (6). Switch off from High risk to low risk region is also a one of epidemiologic factor (7). Consumption of pickles with high salt, heavy spicy food, intake of teais identified as high-risk factor (8,9). Tobacco smoking has been convicted as a dangerous risk factor for incidence of gastric cancer (10). Vegetables and fruits are good to avoid risk (11). Microorganism H. Pylori considered being subject to invite gastric cancer. This microbe is collaborating to gastric cancer (12). The present observations are on the study of development of gastric malignancy in the region of Vidarbha and neighboring districts of Andhra Pradesh and Madhya Pradesh. The aim of study to analyses the contribution of etiologic factors like diet style and other regional habits in gastric carcinoma.

Aim and Objectives:

1. To identify the risk factors for gastric malignancies
2. Identify the complaints of patients affected with gastric malignancies
3. Correlate surgical findings with histopathological reports.

Material and Methods:

Type of study: Prospective observational study.

Place of study: Department of surgery of tertiary care hospital in Central India.

Duration of Study: The study was 6 year from 1st January 2007 to 31st December 2013. At the end of each study the case was followed up with histopathological confirmation.

Sample size: Hundred and seven patients were recorded to be suffered with gastric carcinoma and monitored.

Inclusion Criteria: Diagnostic protocol was preceded through collection of information about the age and sex of patients. History of the patient including life style related activities, dietary habits, family related history, history of peptic ulcer complaints, and information regarding symptoms, hemoglobin contents, was generated and compiled. Site of stomach involved were also expressed.

Exclusion criteria: All patients with any other malignancy or non willing for study were excluded from the study.

Observations and Results:

Table 1: Study of risk factors and life style of patients suffering with gastric carcinoma

High Risk Factors	No. of Patients	% of patients
Smoking	25	23.4
Alcohol	26	24.3
Vegetarian diet	22	20.6
Mixed diet	85	79.4
Obesity	68	63.8
Family History	3	2.8
History of peptic ulcer disease	39	36.4

Table 2: Represents Symptoms in patients of gastric carcinoma

Presenting symptoms	No. of Patients	% of Patients
Weight loss	79	73.83
Abdominal pain	102	95.2
Anorexia	83	77.57
Dysphagia	5	4.67
Nausea	88	82.24
Melena	16	14.95
Mass	16	14.95
Vomiting	92	85.98

Table 3: Distribution of histopathological examination (HPE) in Carcinoma Stomach

HPE	No of patients (n)	Percentage (%)
Adenocarcinoma	100	93.46
Squamous cell carcinoma	2	1.87
GIST	2	1.87
Hepatiod Carcinoma	1	0.93
Intramucosal Epithelial Malignancy	1	0.93
Others	1	0.93
Total	107	100.00

Discussion:

The present study was carried out in tertiary care centre of Vidarbha region and nearby places. During the specified tenure of studies, 107 patients were suspected with gastric carcinoma. Study was done at rural places so most of population belongs to Hindu community. Here the population prefers mixed diet. Being a rural areas, bidi and cigarette smoking as well as alcohol consumption is also preferable. Most important is the tobacco chewing commonly seen in peoples while working also (13). These life style habits may be active contributors to rising of incidence ratio day by day in the particular areas. Normal peak incidence of gastric carcinoma observed was 5th decade of life with 34 patients (31.78%) of patients followed by patients in the 4th decade of life with a total of 29 patients (27.10%) with the mean age range and mean age of 25-89 years and 54.66 +/- 12.32 years respectively. The mean age of diagnosis for males is 58.05 +/- 11.65 years and the mean age of diagnosis for females is 50.50 +/- 11.95 years. Wanebo *et.al.* had observed the peak age incidence occurred in the 7th and 8th decade (14). Malik *et.al.* reported a peak age incidence in 6th and 7th decade while K.R Leena Devi reported 5th and 6th decade (15,16). Mean age of gastric carcinoma were also studied and compared with some reported data. Present studies revealed the mean age of incidence to be 54.66. Meyers *et.al.* reported mean age of incidence as 60.0, whereas Liang *et.al.*and Vaughan reported 59 and 59.8 respectively (17,18,19). Compilation of data shows male predilection for carcinoma of stomach, rationally because of life style habits of males like smoking and alcohol consumption as reported in most of patients. Mixed diet and high weight also contributed in positive development of malignancy as well as gastric ulcer history too. Pain in abdomen was common diagnosed symptoms, followed by vomiting. History of loss of weight and appetite, nausea and development of lump in the abdomen and malena were also reported. Jaundice was also seen in some cases. Some other studies done by Wanebo *et. al.,* Diehl *et. al.*, and Barad *et. al*., had also reported abdominal pain as most common symptoms (14,20,2). Lump in abdomen as a common clinical finding in present study and studies done by Goldsmith *et. al.* (21). These findings also support pallor reported in our studies. Site affected by malignancy were also assessed. Antrum part of stomach is mostly susceptible region observed in more than 50% cases, followed by pylorus and then cardia. Only few cases observed with malignancy in fundus. Development of advanced stage with liver metastates was indicated by presence of icterus. Wall thickening of stomach were reflected by USG abdomen and CT scan. The most common site of gastric carcinoma in a study by KM Mohandas *et. al.*, Liang *et.al.*and Diehl *et.al.* was distal third of stomach, Wanebo *et. al.* found proximal third to be the most common site (22,18,20,14). Adrenocarcinoma was seen in almost all patients. More than 50% patients reported at study centre in stage 4 followed by stage 3C of gastric malignancy.

Conclusion:

Our studied shows that susceptibility of gastric carcinoma increases in middle age like after age of 40 years. Inhibition of intake of meat, and gastric elevators like alcohol, bidi, cigarette, tobacco also decrease the incidence of gastric problems and occurrence of malignancy too. Special precautions should be taken to control weight gain and abdominal pain may be the primary diagnostic symptom to be considered for next examination. Approaches to increase the literacy of common public regarding the etiology and awarenesshelp to health care center to control the incidence cases and susceptibility as well as early report to the hospitals.

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