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OBSERVATION IN THE INCIDENCE AND DIAGNOSIS OF GASTRIC CANCER

Surgery

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ABSTRACT

Objectives: This study is to make a observation of incidence and diagnosis of gastric cancer in a newly built state Jharkhand.

Meterial And Method: This observational study was carried out in Rajendra institute of Medical sciences,Ranchi, department of General surgery from April 2007 to October 2008. Fifty patients (M:F=2.12:1) of gastric cancer admitted through outdoor, emergency, and rererred from medical ward were included in the study.

Results: Fifty patients of gastric cancer, ranged between 3rd to 7th decades of life, more common in non-tribal male of low socio-economic group addicted to smoking, tobacco chewing and taking alcohol admitted to the hospital with vomiting as their first complains, followed by anorexia, weight loss, epigastric mass, pain abdomen and dyspepsia. Upper G.I endoscopy confirmed by histopathological examination was found to be the best method to diagnose gastric cancer. Adenocarcinoma was the commonest amongst all the histological types of gastric cancer and antral polypoidal growth was noticed in maximum number of cases.

Conclusion: The present study leads to inference that, gastric cancer is more common in distal stomach in our part of country and adenocarcinima is the commonest histological type encountered.

KEYWORDS

gastric cancer, epidemiology, diagnosis, risk factors

INTRODUCTION

Gastric cancer (captain of man of death) was recognised as early as 4th century B.C by Hippocrates and Galen. Gastric cancer is the 2nd most common cancer in the world and accounts for 10% of all new cancers (Parkin DM et al [1], 1999).It is one of the commonest malignant conditions encountered in our clinical practice. By the time it is detected mostly it is beyond any surgical procedure. Since long it has remained a challenge to medical profession. While there is a fall in its incidence in the developed world, it is common in the developing countries. Japan ranks first in gastric cancer incidence worldwide, followed by Korea, the south American countries Costarica and Ecuador, and the eastern European countries Belarus and Russia. Areas of lowest risk are North America, North Africa, South Africa, Australia and India (Parkin DM,[2] 1998).In India incidence of gastric cancer is 8.9 and 6 per lac respectively for male and female (K.Park,[3] 19th edition 2007). The Tata Memorial Hospital Registry noted an annual registration averaging 300 cases of gastric cancer from 1984 till 1998. In India, while the incidence is suspected to be low, it yet ranks amongst the ten common cancers. (Mohandas KM et al,[4]1998). Unlike most of the other malignancies, it is extremely difficult to make an early diagnosis of gastric cancer. This point is well emphasized by the fact that a few of the well known authorities who failed to diagnose the disease in themselves , like Johonnes Vonmukilicz, W.J.Mayo, Martin Kricher, R.D.kramar and Armand Trousseau [Troussean's sign Phlebo-thrombosis of superficial veins of leg]-It was this sign which first caused him to suspect his own gastric cancer] until late (Wange Eusteen, 1947).Because of the vague ,non-specific symptoms that characterize gastric cancer, most patients are diagnosed with advanced stage disease. Patients with advanced disease may have a combination of signs and symptoms such as dyspepsia, early satiety, bloating, distention, vomiting, anemia and and dysphagia. Patients may have weight loss, anorexia, fatigue or epigastric discomfort, none of which unequivocally indicates gastric cancer. In some patients, symptoms may suggest the presence of a lesion at a specific location. Diffuse peritoneal spread of disease frequently produces other sites of intestinal obstruction. A large ovarian mass (krukenberg's tumour) or a large peritoneal implant in the pelvis (Blumer shelf) may be felt on pelvic or rectal examination. Nodular metastases in the subcutaneous tissue around the umbilicus or in peripheral lymph nodes represent areas in which a tissue diagnosis can be established minimal morbidity (Peter W.T. Pisters, 2008). Diagnosis based upon history, examination and investigations. Investigations includes upper gastrointestinal endoscopy, barium meal,X-ray, exfoliative cytology, histopathoiogical examination, stool-routine examination & for occult blood, ultrasonography of abdomen, CT-Scan of abdomen, laproscopy, MRI of abdomen, PET, liver functions tests and tests for tumour markers such as CEA, β-HCG,CA125, CA 19-9, CA 50 and tissue staining for C-erb B-2 (Peter W.T. Pister,[5] 2008).

Gastric cancer is actually an eminently curable disease provided that it is detected at an appropriate stage and treated adequately (Primose N.John, [6]2008).

The aim of this study is to make a observation of incidence of gastric cancer and its relation with different age, sex, dietary factors, occupation, family and nutritional status and observation of different methods of diagnosis of gastric cancer. With these objectives this study has been undertaken in the tribal dominated and newly born state of Jharkhand at its premier institute Rajendra Institute of Medical Sciences , Ranchi.

MATERIALS $ METHODS

The present work comprises observations on 50 patients of gastric cancer admitted in the Department of Surgery through outdoor ,emergency and referred from medical ward. These cases formed the material of study. The provisional diagnosis was based on detailed clinical history, thorough physical examinations, routine laboratory investigations and radiological investigations like Barium-meal X-ray of stomach & duodenum , upper gastrointestinal tract endoscopy and CT scan of abdomen whenever possible.

RESULT

In this series, 50 cases of gastric cancer after diagnosis were studied. Patients admitted to Rajendra institute of Medical Sciences, Ranchi, through outdoor and emergency were taken into account. Maximum number of Gastric cancer cases (66%) belonged to the age group of 41 -60 years, while the incidence fell sharply below 40 years and only 2% cases were reported in the age group of 21 to 30 years. Out of 50 cases , 68% cases were males and 32% patients were female. Thus , the male female ratio of patients suffering from gastric cancer in this series was 2.12:1 . Majority of , 35 (70%) cases in this series were non-tribe while 15 (30%) cases were tribe. 44 patients,(88%) belonged to Hindu community , 6 (12%)patients were Muslim. Maximum 39 cases (78%) were in low socioeconomic group , only single case (2%) was recorded in high socioeconomic group. 10 cases (20%) were in middle socioeconomic group. Maximum 38 cases (76%) were non – vegetarian and only 12 cases (24%) were vegetarian. Maximum numbers of sufferers i.e. 24 cases (48%) having habit of tobacco chewing and 21 cases (42%) were smokers. 13 cases

(26%) were addicted to alcohol. 19 (38%) of cases had multiple addiction to more than one. 32% of cases had no addiction.

Mode of presentation: 70% cases in this series presented with vomiting closely followed by anorexia, weight loss, epigastric mass, dyspepsia and pain abdomen. Ascites and jaundice were the mode of presentation in minimum cases (4%) and distant metastasis in 8% cases.

only one case (2%) reported within 2 months from the date of onset of symptoms an 4 (8%) cases reported as late as after 12 months. Maximum number of cases (46%) presented within 6-8 months followed by 36% cases within 9-11 months.

Results of Barium Meal X-ray –Majority of (80%) of gastric carcinoma patients could be diagnosed by barium meal X-ray. Only 2 patients (20%) showed negative results.

Results obtained from endoscopy and Biopsies of lesions;- It is seen that majority of i.e. 27 cases (90%) of gastric cancer patients could be diagnosed correctly by gastroduodenoscopy and biopsies of lesions. Only 3 patients (10%) showed negative results.
Microscopic findings –In the present series, 96% of cases are of adenocarcinoma. Squamous cell carcinoma was present in 2% of cases and 2% cases of lymphoma was reported.It is seen that the maximum number of 31 (62%) gastric carcinoma in this series showed affection of the antrum while only one (2%) cases of gastric cancer showed total involvement of stomach. Out of the total series, 10 cases (20%) showed involvement of cardia and 8 cases (16%) showed involvement of body of stomach.

Macroscopic finding- In this series, 98% of cases were having polypoidal growth out of which 74% were with ulcers and 24% were having without ulcerations in them. 2% cases of diffuse involvement of stomach and no cases of ulcer cancer . These macroscopic findings are based on endoscopy and inspection of part of specimen of operation.

DISCUSSION

Malhotra [7] (1967) observed highest incidence in North India between age group 45-55 years. Nayak [8] (1984) studied Indian patients and reported maximum cases belong to 41-60 year of age. Erkson (1952) and Sharma [9] (1974) observed male predominance over female. Food and dietary factors have been implicated as risk factors for gastric cancer (Tawani A et al,[10]2000) . cigarette smoking has consistently found to be a risk factor for gastric cancer (Ye W, Ekstrom A et al,[11] 2000). Weight loss and abdominal pain are predominat symptoms with advanced gastric cancer and early gastric cancers are asymptomatic in upto 80% of cases (M. Voutilainen et al,[12] 2000). Poshakrishina [13] (1965) in his study over 20 years of gastric cancer found epigastric pain to be the commonest presenting symptom and jaundice being the least. Blendis [14] (1976) could diagnose accurately upto 83% by barium meal X-ray. Sharma[9] (1974) noticed that antrum was involved in 54.9% of cases, fundus in 16%, body 22%, and whole stomach in 6.5% of cases and diffuse involvement was found in 3% of cases. In one study, the incidence of adenocarcinoma of the gastric cardia rose from 29.1% to 52.2 % in the period between 1984 and 1993(J Wayman, D Forman, [15] (2001).adenocarcinoma constitutes the major histological type and in general, the term gastric cancer refers to adenocarcinoma of the stomach. Other malignant tumors are very rare and include gastric lymphoma , squamous cell carcinoma , carcinoid tumor, and GISTs (JK Lewin,HD Appleman, [16]1995)

In our study, The maximum incidence of gastric cancer was observed in 51-60 years of age. The incidence was more common in males, much less in tribal as compared to non-tribal and majority of the patients were of low socio-economic group. Addiction to smoking, tobacco chewing and taking alcohol was recorded in 42%, 48% and 26% of cases respectively. Addiction to more than one habit was in 38% of cases.The maximum number of patients (70%) reported to the hospital with vomiting as their first complains, followed by anorexia (68%), epigastric mass (64%), pain abdomen (60%) and dyspepsia (60%). Haematemesis and malena (32%) was present in a good number of patients. Dysphagia (20%) was mainly associated with growths at the cardia. Distant metastasis (8%), ascites and jaundice (4%) was present in small number of cases, who reported late.Barium meal X-ray showed abnormalities suggestive of gastric carcinoma in 80% cases. Upper G.I. endoscopy thus, was found to be the best method to diagnose gastric cancer. Adenocarcinoma (96%) was the commonest amongst all the histological types of gastric cancer . In most cases (62%), antrum involvement was noticed , other sites of involvement were cardia (20%) and body (16%) in order of frequency. Involvement of total stomach was noticed in one case only (2%). Macroscopically the polypoidal growth occupied a major portion (98%) of the list and only 2% cases had diffuse involvement of stomach.

SUMMARY AND CONCLUSION:

The summary of observation is as follows: -
The maximum incidence of gastric cancer was observed in 51-60 years of age. The incidence was more common in males, much less in tribal as compared to non-tribal and majority of the patients were of low socio-economic group. Addiction to smoking, tobacco chewing and taking alcohol was recorded in 42%, 48% and 26% of cases respectively. Addiction to more than one habit was in 38% of cases.

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