A FREQUENCY OF GESTRIC MALIGNANCY IN PATIENTS UNDERGOING ENDOSCOPY FOR DYSPEPSIA

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ABSTRACT

Objective: To find out the frequency of Gastric Malignancy in endoscoped patients presenting with dyspepsia.

Design: A descriptive study carried out for 12 years.

Place and Duration of Study: Gastroenterology Department of CMH Quetta from 1991-95, CMH Peshawar 1995-2000 and CMH Lahore 2000-2003. Patients came from Baluchistan, Sind, NWFP, Afghanistan and Punjab respectively.

Patients and Methods: Hundred adult patients, who presented with symptoms suggestive of upper digestive tract disease and were confirmed to have gastric malignancy on histopathology of the gastric lesion.

Results: Out of 5000 patients presenting with dyspepsia, 100 patients were ascertained to have gastric malignancy on endoscopic biopsy and registered in the study. Twenty four (24%) were female and 76 (76%) male. The Age ranged from 25 to 85 years with average 54.51 years. Ninety four (94%) patients had adenocarcinoma including 20(20%) signet ring carcinoma, 4(4%) lymphoma, 1(1%) adenosquamous carcinoma and 1(1%) had leiomyoblastoma. Eighty- five (85%) were registered in Peshawar and Quetta out of two thousands i.e. one out of every 23rd gastroscoped patient, while 15(15%) were diagnosed in Lahore out of 3000 i.e. one out of 200.

Conclusion: Gastric Malignancy is the cause of dyspepsia in 4. 25 % patients in Baluchistan and NWFP and 0.5 % in Punjab, who presented with upper digestive tract disturbances, substantive enough to warrant endoscopy. Hence gastric malignancy is much more common in Baluchistan and NWFP as compared to Punjab.The average age is 54 .51 years.

INTRODUCTION

As per US Government Printing Office Publication in1974, gastric cancer was the leading cause of cancer mortality in the United States for men, and the third leading cause in women in 1930. [1] After World War II the incidence of gastric cancer has steadily declined especially in the developed world. Gastric cancer was the still the leading cause of cancer mortality in the world as recently as 1980. In 1996 gastric cancer was the second leading cause of cancer death in the world, resulting in 628,000 deaths per year [2]. In 1997, gastric cancer was the eighth leading cause of cancer death in the United States, with an estimated 22,800 newly diagnosed gastric cancers resulting in 14, 000 deaths [3].

There is a geographical variation in the prevalence of gastric carcinoma. It is commonest in Japan followed by South Korea, Costa Rica, China, Russia and Central Asian States, where mortality is about30 per 100,000 population. Pakistan happens to be in the neighbourhood of the highest incidence of gastric carcinoma in the world, here mortality is believed to be around 20-30/100,000 [3].

We set up our Gastroenterology Unit at Combined Military Hospital Quetta in 1991, and one of our earlier patients, was a young girl of thirty years in reasonable health .She had vague upper abdominal discomfort, but the gastroscopy, showed an ulcer with rolled over margins hidden in the fundus. The second patient was again a young Baluch lady of 28 years with anemia, weight loss, vomiting, persistent epigastric discomfort and mass, which turned out to be Gastric Lymphoma. The next was two soldiers also in

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early thirties. Startled at this unusual occurrence of gastric cancer, we started recording such patients in the Unit and were on the look for the probable etiology and some idea about prevalence.

Both the genetic and environmental factors are involved in the causation of gastric cancer .The major environmental risk factors for the development of gastric cancer appear to be H. pylori infection especially Cag A strain, diets high in salted and/or preserved foods, and cigarette smoking. Protective factors include diets high in fresh fruits and vegetables, vitamin C, and aspirin. [4] H. Pylori infects about 80 % of our population by the age of 20 years [5]. Similarly smoking in many forms and dietary factors, which have been implicated in the development of gastric cancer like diet high in salt, pickled vegetables, smoked and charred foods, soy sauce, dried salted fish and meat, and lack of refrigeration are rampant. The purpose of this study was to determine the prevelance of gastric meligency in endoscoped period presenting with duppepsia.

PATIENTS AND METHODS

The study started in Combined Military Hospital (C.M.H) Quetta in December 1991 and shifted to Peshawar and then to Lahore in 1995 and 2000 respectively. The patients were personnel of the Armed Forces of Pakistan, their families including parents and the civilian population from the vicinity and surroundings of Baluchistan, Punjab, Sind, Afghanistan and NWFP and rarely from Central Asian States correspondingly at Quetta and Peshawar. Patients belonging to Armed Forces came from whole of the country but predominantly from Northern Punjab and NWFP.

The patients of any age and either sex presenting with upper digestive tract symptoms (dyspepsia) had their thorough history and physical examination, full blood counts, ECG, chest skiagram and then Oesophagogastroduodenoscopy by Olympus GIF XQ-20/30 and EVIS GIF-130 .Any lesion in the stomach was biopsied endscopically by the standard biopsy forceps and those who had gastric malignancy confirmed on histopathology, were included in the study. Registered patients had further investigations like liver function tests, BUN, electrolytes, abdominal Ultrasound and at times CT scan and MR for staging. After appropriate staging patients were offered treatment as under: -

- Stage I & II - Curative Surgery
- Stage III - Palliation and Chemotherapy
- Stage III & IV - Palliation

RESULTS

A total of 100 patients with confirmed gastric malignancy were registered over 12 years. The youngest patient was a Baluch lady of 28 years and the eldest, a gentleman of 85 from NWFP. One (1%) patient was 28 year old and another (1%) was 29 Four (4%) were at 30, Four (4%) -32, 10 (10%)-35, 4(4%)-40, 16(1%)-50, 10(10%)-55, 6(6%)-56, 16(16%)-60, 4(4%)-65m, 20(20%)-70, 2(2%)-75 and two(2%) at 85 years. The average age observed in our study is 54.51 years.

Seventy-six (76%) patients were male and 24 (24%) female. Hence male to female ratio was 3:1.

The most frequent symptom in our study was pain epigastrium with which 50 patients (50%) presented, next were 30(30%) with anaemia, 30 (30%) with loss of weight and 30 (30%) with vomiting .Other symptoms were, gastric outlet obstruction in 16(16%) patients, who had tumour in the prepyloric region. Twelve (12%) patients presented with haematemesis. Twelve (12%) presented with mass due to advanced disease including one with lymphoma Ten (10%) had growth in

cardia and presented with dysphagia. Presentation was with with odynophagia in 4 (4%) patients due to tumour extending to oesophagous and gastroesophageal juction. Four (4%) had pain left hypochondrium and the lesion was in cardia, and two (2%) developed jaundice as the cancer had infiltered the duodenum. Of course many patients had multiple symptoms.

The growth involved the upper portion of the stomach in30 (30%), middle in 30(30%) and lower in 36(36%) cases in Pakistan, in our study. There was diffuse involvement in 4(4%) patients. Sixty (60%) patients had growth in the body, 16(16%) prepyloric and 10(10%) in cardia. In five (5%) cases the growth involved gastroesophageal junction, extended to oesophagous in 3(3%), in two (2%) down to duodenum and was diffuse in four (4 %).

It was situated along greater curvature in 60 (60%) cases and on lesser curvature in 30(30%).

The growth involved the upper portion of the stomach in34 (34%) patients in the study, including diffuse involvement in 4 (4%) and cardia in 10 (10%) patients.

Ninety-four (94%) patients had adenocarcinoma including 20(20%) Signet ring adenocarcinoma, 4 (4%) lymphoma, 1(1%) adenosquamous carcinoma and 1(1%) had leiomyoblastoma.

Eighty- five were registered in Peshawar and Quetta out of two thousands endoscopies i.e. one out of every 23rd endoscoped patient, while 15 was diagnosed in Lahore out of 3000 procedures i.e. one out of 200.

Younger most patients were either from Quetta or Peshawar, where 72 % were 60 years of age or below, 56% up to 56, 26 % up to 40, and 42 % up to 50. While at Lahore 80% were 60 or above, 20 % up to 50 and 13 % up to 40.The youngest patient was 28 at Quetta, 29 at Peshawar and 35 at Lahore.

Table: Macroscopic Appearance of the Lesion (n=100).

No	Appearance	No of Patients
1	Polypoidal/Fungating	30
2	Ulcer	22
3	Ulcerating/infiltrating	44
4	Diffuse Infiltrating	4

Age wise break up showed in younger patients i.e. upto 40 years, 40% had the lesion in the upper portion of the stomach, 38% in mid, 7% in lower part while 15% had diffuse involvement. At middle age i.e. 50-60, the lesion was, in upper stretches in 22%, in mid in 35 % and lower in 43%. In older people i.e. above 60, the lesion was situated in upper part in 28%, in mid in 28% and lower in 44% cases. Hence young people (<40) had the lesion mostly in the upper, middle aged (50-60) in the mid to lower and the older fellows (>60) in the lower reaches of the stomach predominantly.

Macroscopically the lesion was polypoidal (fungating) in 30%, Ulcer in 22%, ulcerating / infiltrating 44% and diffuse infiltrating in 4% (Table).

Only one patient (1%) had curative resection and is alive without recurrence after 12 years, 22 (22%) had resectable disease, 30(30%) had palliative surgery, 25(25%) had chemotherapy and 22(22%) symptomatic treatment.

DISCUSSION

In this study carried over 12 years from 1991-2003, one hundred cases of gastric malignancy have been found amongst 5000 patients, who underwent upper G I endoscopy for various upper digestive symptoms or dyspepsia. . So overall frequency of gastric cancer looks to be 2 % in patients having dyspepsia. It is much higher in Baluchistan and NWFP i.e. 4.25 % as compared to Punjab where it is just 0.5 %.

Same pictures appear from other studies carried in the country. As in a study carried out by Aman Ullah et al at Postgraduate Institute Lady Reading Hospital Peshawar gastric cancer was found to be one of the commonest malignancies. It was found to be more common in the northern parts of the

province as compared to the south and adenocarcinoma was found to be the commonest histological type. [6]

Simmilarly Bhurgri et al have found cancer of the oesophagous as the commonest cancer in both male and female in Quetta Baluchistan an age standardized rate (ASR) 25.5 in males and 17.2 in females, one of the highest in the world [7].

While Aziz et al did not count gastric cancer amongst commonest malignancies in Punjab [8].

At a local hospital in Karachi the frequency of gastrointestinal tumours has risen from 1961 to 1992 from 9.1 % to 17.1 % in males and 8.9 % to 16 % in females. A simmilar trend has been reported from other centres of the country. This rise is significantly higher when adjusted for increase in detection rate. These tumours at present are most common in males and second commonest in females. They exhibit a much lower peak in age in our population as compared to Caucasians. The peak age, incidence, histologic variance, prognosis and survival in our population are closer to that in blacks abroad. Almost 49 % are between 35-54 and 24 % between 55-64 years [9].

Possible reasons for increased in gastrointestinal malignancies could be, the life pattern, diet, environment and better diagnostic tools. Peoples are increasingly becoming fond of smoked charred bar-be-cue in the four corners of the country. Salted foods and pickles are common in our society. Smoking and alcoholism is rampant. Fresh vegetable and fruits are scantier and costlier than before. Increasing use of food preservative and chemical processing, insecticides, fertilizers and environmental pollution by ionizing radiation due to ozone depletion and changing pattern of viral infections are the swarming hazards replete with carcinogens. Better education and awareness amongst the people has increased the tendency to seek medical advice.Medical facilities likewise are spreading to the public as well with swelling popualtion of doctors. More over sophisticated techniques like GI endoscopy,ultrasound, CT and MRI have certainly increased the diagnostic yield and have unearthed many diseases, which already existed there but remained undiscovered

Unfortunately no population base data is available in the country on the exact incidence or the Age Standardized Rate (AAR or ASR). However Karachi based studies are available. Karachi being a cosmopolitan city, represent almost all the ethnic and socioeconomic groups of the country especially its District South can be taken as a random sample of the population of the country.A study carried out there by Bhurgri et al in 1995-96 has depicted ASR for Gastric carcinoma in male as 2.7 per 100,000 and 1.9 in female the peak age was 65-70 years [10].

Incidence data from the neighboring countries is better organized. Madras Metropolitan Tumour Registry (MMTR), covering a population of 3.8 million has shown stomach cancer as the leading cause of malignancy in males with an ASR of 15.2 [11].

In Japan gastric carcinoma is again the commonest malignancy both in males and females [12] and the same is true in Seoul, Korea [13].

CONCLUSION

Out of 5000 endoscopies performed on dyspeptic patients from 1991 –2003, one hundred malignancies have been diagnosed i.e. gastric cancer is the cause of 2% of dyspepsia in endoscoped patients, it is much more (eight times) common in Baluchistan and NWFP i.e. 4.25 % as compared to Punjab i.e. 0.5 %. The reason could be the abundance of charred, smoked and salted foods

consumed in North and West and fruits and vegetables in the central part of the country. No age is immune, beginning from the twenties. Average age is 54.51 years. Epigastric discomfort is the most common presentation. Commonest variety is ulcerating/infiltrating and intestinal type. Only helpful approach is cytological study of the biopsy and brushing of the gastric lesion coupled with the vigilant analysis of the clinical picture.

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