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Prevalence of Peptic Ulcer Disease among the Patients with Abdominal Pain Attending the Department of Surgery in Gujarat Adani Institute of Medical Science, Bhuj, India

KEYWORDS: Peptic Ulcer, Abdominal pain, Prevalence

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ABSTRACT

Introduction: *Peptic ulcer disease represents a serious medical problem. Approximately 500,000 new cases are reported each year, with 5 million people affected in the United States alone. Interestingly, those at the highest risk of contracting peptic ulcer disease are those generations born around the middle of the 20th century. Therefore the aim of this descriptive study was to explore the prevalence of peptic ulcer disease among the patients attending the department of surgery in Gujarat Adani Medical College & Hospital,India.*

Material & Methods: *Detailed information was collected from the patients (respondents) and hospital files of 250 patients with peptic ulcer on a predesigned pro-forma and analyzed using SPSS 17 for frequencies and distributions.*

Results: *The study shows that 17%, 27%, 9%, 23% and 24% of the respondents belongs to age group of 15-20 years, 21-25 years, 26-30 years, 31-35 years and 36-45 years. The study reveals that most of the respondents (70.2%) are Male and rests of them were Female (29.8%). Majority of the respondents (63.2%) had a family history of the disease.*

Conclusion: *These aspects including possible lack of awareness about the disease, its consequences and its available treatment options could be the main contributing elements in aggravating the burden of peptic ulcer disease in India with a resultant higher prevalence compared to more developed nations.*

Introduction

A peptic ulcer is a defect in the gastric or duodenal wall that extends through the muscularis mucosa (the lowermost limit of the mucosa) into the deeper layers of the wall (submucosa or the muscularis propria). Signs and symptoms of PUD include dyspepsia, GI bleeding, anemia, and gastric outlet obstruction.[1] Dyspepsia is a nonspecific term denoting upper abdominal discomfort that is thought to arise from the upper GI tract. Dyspepsia is a common symptom, affecting 10% to 40% of the general population. Although the majority of patients with dyspeptic symptoms have functional dyspepsia for which no organic etiology can be identified, PUD is found in 5% to 15% of dyspeptic patients.[2]

Peptic ulcer disease represents a serious medical problem. Approximately 500,000 new cases are reported each year, with 5 million people affected in the United States alone. Interestingly, those at the highest risk of contracting peptic ulcer disease are those generations born around the middle of the 20th century.[3] Ulcer disease has become a disease predominantly affecting the older population, with the peak incidence occurring between 55 and 65 years of age. In men, duodenal ulcers were more common than gastric ulcers; in women, the converse was found to be true. Thirty-five percent of patients diagnosed with gastric ulcers will suffer serious complications. Although mortality rates from peptic ulcer disease are low, the high prevalence and the resulting pain, suffering, and expense are very costly.[4] Ulcers can develop in the esophagus, stomach or duodenum, at the margin of a gastroenterostomy, in the jejunum, in ZollingerEllison syndrome, and in association with a Meckel's diverticulum containing ectopic gastric mucosa. Peptic ulcer disease is one of several disorders of the upper gastrointestinal tract that is caused, at least partially, by gastric acid. Patients with peptic ulcer disease may present with a range of symptoms, from mild abdominal discomfort to catastrophic perforation and bleeding.[5]

Clinical symptoms are not enough for accurate diagnosis of peptic ulcer disease (PUD) and endoscopic assays are necessary for confirmation of diagnosis.[6] Despite previous studies in Europe and East Asia, there were no population-based endoscopic study for evaluation of prevalence of PUD in Bhuj. Previous studies were based on patients self-reports during referrals, following appearance of gastrointestinal symptoms in patients. Subsequently, conducting an epidemiological PUD survey was very important in our study area, particularly due to high prevalence of PUD complications. The complications of PUD impose substantial economic and morbidity burden on the health system and the society.[7]

Material & Method

Objectives were to determine the prevalence of peptic ulcer disease among the patients with abdominal pain in Gujarat Adani medical college hospital, to estimate the prevalence of cases of peptic ulcer disease among all the patients with abdominal pain attending the Surgery department, to describe the socio-demographic factors of the patients with the disease, to determine the types of peptic ulcer among different age groups A descriptive cross sectional study was carried out for the attainment of the above mentioned study objectives and to meet the constraints of resource, manpower and time. The target population included All the indoor and outdoor patients from period Jan 2002 to December 2012 of the Surgery Department of Gujarat Adani Institute of Medical Science with abdominal pain and the sample population were patients diagnosed with peptic ulcer disease who were present and were inclined to be interviewed, attending the Depart-

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ments of Surgery of Gujarat Adani Institute of Medical Science. Ulcers with a malign neoplasia diagnosis, verified by histology after biopsy or resection, were excluded.

Inclusion Criteria: All patients with abdominal pain in the indoor or outdoor under the Department of Surgery in Dhaka Medical College and Hospital. · Patients who are willing to participate in the study. · Patients who will be able to communicate. Exclusion Criteria · Patients without the abdominal pain · Patients who are not present at the time of data collection. · Patients who refuse to participate.

The data collected were checked and edited and then entered into the computer using Statistical Package for Social Sciences (SPSS) software version 17. Descriptive analysis of the variables and frequencies were carried out.

Result

A total of 300 patients with a perforated peptic ulcer were identified between 2002 and 2012. Median age was 68 years ranging from 18 to 100 years. There was an equal gender distribution (52% were women), but women were significantly older than men (median age of 73 years vs 62 years, respectively, P < 0.001). The number of women affected increased significantly with age across age groups, with only one in four patients aged < 50 years of age being female, compared to two-thirds of those > 70 years of age being female (26% vs 65% women, respectively, P = 0.002). Further patient characteristics are given in Table 1.

Table 1

Age/Gender	Duodenal ulcer	Gastric ulcer	Total	P Value
< 60 yr	18 (30)	37 (33)	55 (32)	0.68
≥ 60 yr	42 (70)	75 (67)	117 (68)	
Female	27 (45)	62 (55)	89 (52)	0.20
Male	33 (55)	50 (45)	83 (48)	

Table No. 2: Distribution of the respondents by pain in the epigastric region (n=300)

Pain in the epigastric region	Frequency	Percent
Yes	291	97
No	9	3
Total	300	100

97% had pain in the epigastric region and only 3% did not have pain in the epigastric region.

Ulcer Localization

Gastric ulcers predominated and accounted for 112 of 172 (65%) patients in this study, but declined during the latter years of the period, while the frequency of duodenal ulcers remained stable, but increased somewhat the latter period. Prepyloric ulcers represented 61 of 112 (54%) of gastric ulcers and 21 of 112 19%) were located in the pylorus. In the corpus/fundus area 12 of 112 (11%) ulcers were observed, while 8 of 112 (7%) were located in the antrum. One ulcer was located in an anastomosis and 9 of 112 (8%) ulcers were missing exact localization in the stomach, but being classified as gastric ulcers at operation.

Age and comorbidity

Of those aged > 60 years of age 105 of 117 (90%) had comorbidity compared to 37 of 55 (67%) of those aged ≤ 60 years (P < 0.001). Women also had significantly higher rate of comorbidity compared to men (91% vs 74%, respectively, P = 0.002), also when adjusted for age (P = 0.036).

Discussion

Ulcers are deep lesions penetrating through the entire thickness of the gastrointestinal tract (g.i.t) mucosa and muscularis mucosa. Peptic ulcer has unquestionably been a disease of the twentieth century. Epidemiological data for this disease and its complications have shown striking geographical variations in incidence and prevalence.[8] There are different types of ulcers most common are peptic ulcer: gastric ulcer, which appeared to be due to damage to the lining of the stomach, and duodenal ulcer, which was associated with excessive acid secretion by the stomach.[9] The aetiology of peptic ulcer was fiercely debated. It is believed that peptic ulcers develop due to an imbalance between aggressive factors (Helicobacter pylori, NSAIDs, gastric acid) and protective factors (mucin, bicarbonate, prostaglandins), leading to an interruption in the mucosal integrity. Various factors are implicated that play a pivotal role in the pathogenesis of ulcerations like, sedentary life style, alcohol intake, spicy food, drugs and various bacterial infections. Moreover, several endogenous substances have been identified and are reported to be involved in the production of gastrointestinal lesions in animals.[10] The more important ones include some of the bacterial infection, various drugs and chemicals, gastric secretion, lipid metabolites, neuropeptides, inflammatory mediators and reactive free radicals.

Peptic ulcer disease represents a serious medical problem. Approximately 500,000 new cases are reported each year, with 5 million people affected in the United States alone.[11] Interestingly, those at the highest risk of contracting peptic ulcer disease are those generations born around the middle of the 20th century. Ulcer disease has become a disease predominantly affecting the older population, with the peak incidence occurring between 55 and 65 years of age. In men, duodenal ulcers were more common than gastric ulcers; in women, the converse was found to be true.[4] Thirty-five percent of patients diagnosed with gastric ulcers will suffer serious complications. Although mortality rates from peptic ulcer disease are low, the high prevalence and the resulting pain, suffering, and expense are very costly. Ulcers can develop in the esophagus, stomach or duodenum, at the margin of a gastroenterostomy, in the jejunum, in Zollinger Ellison syndrome, and in association with a Meckel's diverticulum containing ectopic gastric mucosa. Peptic ulcer disease is one of several disorders of the upper gastrointestinal tract that is caused, at least partially, by gastric acid. Patients with peptic ulcer disease may present with a range of symptoms, from mild abdominal discomfort to catastrophic perforation and bleeding.[12]

This descriptive study was conducted from Janurary 2002 to December 2012 to explore the prevalence of peptic ulcer disease among the patients attending the Department of Surgery in Gujarat Adani Institute of Medical Sciecne, Bhuj. In-depth data were collected from respondents and hospital files of 196 patients with abdominal pain. A pretested modified questionnaire was used to collect the data. All the data were entered and analyzed by using Statistical Package of Social Science (SPSS) 17.0 version. The current study reveals that 16.3%, 24%, 7.7%, 25.5% and 26.5% of the respondents belongs to age group of 15-20 years, 21-25 years, 26-30 years, 31-35 years and 36-45 years respectively with the mean age Mean ± SD=3.22 ± 1.474.The study reveals that most of the respondents (62.8%) are Male and rest of them were Female (37.2%).

According to a study conducted in Hawaii, the risk of both gastric and duodenal ulcers progressively increased with

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increasing pack-years of cigarette smoking. In this study majority of the respondents (54.6%) consumed alcohol and only 45.4% did not consume alcohol. It has also been found that majority of the respondents (93%) have burning sensation in the epigastric region and only 7% did not present with burning sensation in the epigastric region. Current study shows that majority of the respondents (78.6%) had aggravated pain when the stomach is empty and only 21.4% had aggravated pain when stomach is full. Most of the respondents (97%) had pain in the epigastric region and only 3% had no pain in the epigastric region. 21.9% of the respondents reported of pain when their stomach is full, 49% when the stomach is empty and only 29.1% reported of having pain constantly.

Conclusion

A wide variety of patients with abdominal pain was recorded among the study subjects. Health care facilities in Gujarat Adani Institute of Medical Science were found to be highly adequate in providing affordable mass scale treatment of peptic ulcer disease with remarkable success rates. However, the socio-economic conditions and educational levels of the patients with the disease were found to be under par. In addition, the patients having a family history of the disease, stress, diabetes, hypertension and those who smoke were affected.

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