

Original Research Article

Clinical, endoscopic and histopathological correlation in gastroesophageal reflux disease

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ABSTRACT

Background: Gastroesophageal reflux disease (GERD) is a common burden on health care resources in the Western world and deteriorates the health-related quality of life of those affected, but its manifestations in the general population are as yet unclear.

Methods: The present prospective study was conducted on 50 patients of acid peptic disease (APD) of both gender of age 15-75 were randomly selected. APD was diagnosed clinically in patients presenting the symptoms and were subjected to upper gastrointestinal (GI) endoscopy using Pentax FG29 gastroscope. The patients who had the classical symptoms of heart burn and reflux were diagnosed as GERD clinically and were examined for erosive changes by endoscopy.

Results: Out of the 16 patients diagnosed as GERD, majority of them 10 (62.5%) were vegetarian and 62.50% had symptoms from 3 to 12 months. 12 (75%) had visible erosions on endoscopy. The remaining 4 (25%) had normal endoscopic picture, the biopsy taken from whom showed inflammatory changes on histopathology.

Conclusions: The most common presenting complaint in patients of GERD was heartburn followed by regurgitation of gastric contents. Prevalence of GERD was found 32% in APD. In 12 (24%) of patients oesophagitis was seen on endoscopic examination. After medical treatment for 6-8 weeks, 37.5% of subjects become asymptomatic and 50% had partial symptomatic relief.

Keywords: Acid peptic disease, Gastroesophageal reflux disease, Endoscopy, Heartburn

INTRODUCTION

Gastroesophageal reflux disease (GERD) is a common burden on health care resources in the Western world and deteriorates the health-related quality of life of those affected, but its manifestations in the general population are as yet unclear.¹⁻³ Also, the impact of gastroesophageal reflux symptoms (GERS) on health-related quality of life in the general population is poorly characterized. Barrett's esophagus (BE), a complication of GERD is associated with esophageal adenocarcinoma, the incidence of which has been increasing dramatically in the Western world

during the last decades.⁴ However, the prevalence of these conditions in the general population remains unknown, as endoscopy, including biopsy, is required in a random population sample to acquire this knowledge. GERD manifests as a spectrum of disorders mainly caused by the retrograde flow of gastric contents from the stomach into the esophagus, causing symptoms and/or esophageal mucosal damage.

GERD is found to be common in studies on patients and in different populations (up to 40%) and it is a chronic disease causing a public health problem. It is associated with a huge economic burden in the western countries and

significantly decreased quality of life. Complicated GERD includes erosive esophagitis, hemorrhage, ulcerative esophagitis, and esophageal strictures. GERD is a well-established risk factor for Barrett's esophagus (BE) and esophageal adenocarcinoma, the most rapidly rising incidence of cancer in the western world. Traditionally, GERD has been viewed as a disease of the western world and thought to be uncommon in the developing countries.⁵⁻⁷

A recent systematic review identified a 10-20% prevalence of GERD (at least weekly heartburn and/or regurgitation) in the western countries; while in Asia, the prevalence was at <5%. It has been suggested that there is an increasing trend in the prevalence of GERD over the last two decades and that reflux disease is more common in Asian countries than previously recognized. Studying racial and geographic differences in GERD and its complications are important as they highlight environmental or genetic influences in etiology and increase our understanding of the disease pathogenesis and management.⁸

Heartburn and acid regurgitation are the most typical symptoms of GERD and have been shown to be related to regurgitation of gastric acid into the esophagus. They are often associated with impaired health-related quality of life (HRQoL), but due to the lack of international consensus, in the past, on the ground definition of the disease, epidemiological studies are challenging to compare GERD may expose to the risk of physical complications such as esophageal erosions, ulcers, strictures, Barrett's esophagus (BE) and esophageal adenocarcinoma. In the present study, the GERD-related disorders and its manifestations were studied in a representative random sample of an adult population using validated questionnaires and standardized endoscopy.^{9,10} Thus, the aim was to study the clinical spectrum, incidence, endoscopic findings and to assess the response of medical treatment among patients with GERD in acid peptic disease.

METHODS

The present prospective study was conducted on 50 patients of acid peptic disease (APD) of both gender of age 15-75 were randomly selected from patients attending medicine outpatient department (OPD), Government Medical College and Hospital, Ambikapur, Sarguja, Chhatisgarh, India between January 2021 and June 2021.

Patients presenting with various symptoms of APD like dyspepsia, epigastric pain, burning sensation in the upper abdomen, central chest pain, belching, bloated feeling, acid eructation, vomiting, 'ball rolling' feeling in the upper abdomen, blood in vomitus were included in the study. And exclusion criteria of the study were the patients with coronary artery disease, previously diagnosed disease conditions, patients with history of treatment with proton pump inhibitors in the recent past and patients with recent history of major operation or trauma.

An informed consent was taken for upper GI endoscopy from all the subjects participating in the study. Details of cases were recorded including baseline characteristics, history and investigations such as Complete blood count with erythrocyte sedimentation rate (ESR), random blood sugar (RBS), urea, creatinine, serum electrolytes, electrocardiogram, ultrasonography (USG) abdomen, upper gastrointestinal (GI) endoscopy, etc. Ethical consideration was made through Institutional ethical committee.

APD was diagnosed clinically in patients presenting the symptoms and were subjected to upper GI endoscopy using Pentax FG29 gastroscope. The patients who had the classical symptoms of heart burn and reflux were diagnosed as GERD clinically and were examined for erosive changes by endoscopy, also they were not subjected to tissue biopsy. In the patients of GERD who had no visible pathology on endoscopy, biopsy samples were taken from the lower end of oesophagus and were sent for histopathological study. Patients diagnosed as GERD were prescribed pharmacological and supportive treatment.

The supportive management included weight reduction, sleeping with the head of the bed elevated by about 4-6 in. with blocks, and elimination of factors that increase abdominal pressure. Patients were advised not to smoke and to avoid consuming fatty and spicy food, coffee, chocolate, alcohol, mint, orange juice, and certain medications (such as anticholinergic drugs, calcium channel blockers, and other smooth-muscle relaxants) and to avoid ingesting large quantities of fluids with meals. Pharmacological management was by giving the standard once daily dose of rabeprazole 20 mg, 30 min before breakfast for 6-8 weeks. The patients were followed up after 4-6 weeks of treatment and clinical response to therapy was classified into total relief, partial relief and refractory symptoms. Data was recorded in Microsoft excel and checked for its completeness and correctness then it was analysed by using suitable statistical software.

RESULTS

Out of total 50 patients, 35 (70%) were male and 15 (30%) were female. The mean age was 37.2 ± 11.17 years and majority of the patients with APD were in the group of 30-39 years.

16 patients were diagnosed as GERD and had a common symptom of heart burns. Most of the patients had more than one symptom at a time (Table 1).

Out of the 16 patients diagnosed as GERD, majority of them 10 (62.5%) were vegetarian and 62.50% had symptoms from 3 to 12 months. 11 (68.75%) and 9 (56.25%) patients used to drink and smoke respectively (Table 2).

12 (24%) cases had oesophagitis and 12 (24%) had gastritis followed by ulcers with 6(12%). Out of the 16 patients diagnosed as GERD, 12 (75%) had visible erosions on endoscopy.

The remaining 4 (25%) had normal endoscopic picture, the biopsy taken from whom showed inflammatory changes on histopathology. Out of the total 50 patients of APD, 16 (32%) had GERD (Table 3).

Table 1: Demographic characteristics, incidence and clinical spectrum of GERD.

Baseline characteristics	No. (%)
Age	
Mean±SD	37.20±11.17
Gender	
Male	35 (70)
Female	15 (30)
GERD	
Yes	16 (32)
No	34 (68)
Symptoms	
Heart burns	16 (100)
Reflux	13 (81.25)
Burning sensation	10 (62.5)
Chest pain	2 (12.5)
Vomiting	9 (56.3)
Dyspepsia	11 (68.7)
Belching	8 (50)
Blood in vomitus	0 (0)
Loss of appetite	10 (62.5)
Total	50 (100)

Table 2: Patients profile.

Patients profile	No. (%)
Dietary pattern	
Vegetarian	10 (62.5)
Mix diet	6 (37.5)
Duration of symptoms (in months)	
≤3	4 (25)
3-6	5 (31.25)
6-12	5 (31.25)
≥12	2 (12.5)
Alcohol intake	
Yes	11 (68.75)
No	5 (31.25)
Smoking	
Yes	9 (56.25)
No	7 (43.75)
Total	16 (100)

After treatment, 6 (37.5%) patient had complete relief from symptoms, 8 (50%) had partial relief and 2 (12.5%) had no relief (Table 4).

Table 3: UGI endoscopy findings in APD patients.

UGI endoscopy	No. (%)
Oesophagitis	12 (24)
Gastritis	12 (24)
Ulcers	6 (12)
Growth	1 (2)
Varices	2 (4)
WNL	17 (34)
Total	50 (100)

Table 4: Response to treatment in GERD.

Response	No. (%)
Complete relief	6 (37.5)
Partial relief	8 (50)
No relief	2 (12.5)
Total	16 (100)

DISCUSSION

Gastroesophageal reflux is well suited for population-based research because it is a common condition in the community, the diagnosis can be made on the basis of symptoms, and people do not necessarily seek medical care.

It was observed that 70% of patients diagnosed as having APD were male and 30% were female. This may be due to the fact that in our OPD number of male patients is more than the number of female patients. Similarly majority of the subjects were male in a study done by Thrift et al.¹¹

It was also observed that majority 54% (n=27) of the subjects belonged to the age group of 30-49 years with a mean age of 37.2±11.16 year. A slight but statistically significant trend was observed between increasing severity of heartburns with increasing age. The incidence of GERD in APD was found to be 32% in our study. In a study done by Yang et al, the most frequent and bothersome symptom of GERD patients was acid regurgitation.¹² Several studies have reported the prevalence of heartburn as 21-37% to experience heartburn at least once a month and as 13% - 25% to experience at least once a week or more frequently.¹³⁻¹⁵ Elderly patients with GERD were also at a higher risk for severe erosive esophagitis. Thus, elderly patients with heartburns or dysphagia may represent a subset that warrants particularly close clinical evaluation.

In our study, the clinical features of GERD remained similar to studies done by Hollenz et al and Klauser et al. It was observed that heartburns were the most frequent presenting complaint of the subjects and it was present in 100% of patients. This was followed by feeling of sour or bitter, fluid running up to the mouth from the abdomen. In 56% of the patients nausea and vomiting was seen as associated symptoms. Interestingly, 12.5% of patients had non-cardiac chest pain and more than 50% of patients with belching.¹⁶⁻¹⁷

62.5% of the patients were strictly vegetarian and 36.5% of patients were taking mixed diet. 69% of patients were alcoholics and 56% were smokers. 12.5% (n=2) patients had symptoms of GERD for more than one year, in 31.5% of subjects these symptoms were present for the last 6 months to one year, and in 31.5% of subjects these symptoms were present from last 3 months to 6 months. Endoscopy signs of reflux esophagitis were present in 24% of subjects while in 24% of subjects gastritis was seen.

After treatment with proton pump inhibitors for 6 to 8 weeks, 87.5% of subjects had symptomatic relief and in 12.5% of subjects symptoms persisted despite treatment. Similarly Locky et al conducted a study in which it was found that 82% response to medical treatment. Also In the study by Zagari et al, found that dysphagia resolved in 83% of patients after once- daily PPI treatment.^{18,19}

CONCLUSION

It was found that out of total patients, 16 were diagnosed clinically as GERD, 12 of these had visible pathology on endoscopy and 4 had no visible pathology. However these 4 patients had inflammatory changes on histopathology of esophageal biopsy sample. The most common presenting complaint in patients of GERD was heartburn followed by regurgitation of gastric contents. Prevalence of GERD was found 32% in APD. Smoking and alcoholism were positively associated with GERD. In 24% (n=12) of patients oesophagitis was seen on endoscopic examination. After medical treatment for 6-8 weeks 37.5% of subjects become asymptomatic and 50% had partial symptomatic relief. The acid peptic syndromes and the GERD are very commonly encountered disease conditions which causes significant morbidity and loss of productive manpower in the daily life. However there is sufficient evidence that significant relief from the disease process can be achieved by uncomplicated medical therapy and life style modifications.

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