Original Article

Endoscopic Healing of GERD using Esomeprazole Therapy

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Objective: To assess improvement on endoscopy in patients suffering from gastro-esophageal reflux disease (GERD) with esomeprazole therapy.
Place and Duration of study: Gastroenterology section of Medical Unit I, Services Hospital, Lahore from May 2006 to November 2006.
Patients and Methods: Fifty patients having symptoms of GERD, like retro-sternal burning, pain epigastrium, nausea, vomiting and any associated complaints suggestive of GERD were selected for upper GI endoscopy. Patients who had positive GERD findings on endoscopy were included in the study and were put on esomeprazole. Repeat endoscopy was done after 4 to 6 weeks to look for any improvement in endoscopic findings.
Results: All of the 50 patients who were selected had positive endoscopic findings suggestive of reflux disease. All of them were put on proton pump inhibitor therapy for 4 to 6 weeks and repeat endoscopy was performed. Thirty seven (74%) showed full recovery while 13 (26%) showed no or partial healing on upper GI endoscopy.
Conclusion: Esomeprazole is an effective treatment in healing of GERD with improvement in symptoms like retro-sternal burning, epigastric pain, nausea, vomiting and associated symptoms like chronic cough, asthma, non cardiac chest pain.
Key Words: GERD, Esomeprazole, Endoscopic findings.

Introduction

Gastro-esophageal reflux is the reflux of gastric contents into the esophagus leading to symptoms sufficient enough to affect patient well-being and/or cause complications.[1] The heartburn is a very common symptom with a prevalence of 10% to 20% in the Western world. However, in Asia the prevalence of GERD-like symptoms is less than 5%).[2,3] Still retrosternal burning is one of the commonest ways of presentation in our medical OPDs. When seen on endoscopy, GERD can be subdivided into reflux esophagitis (or erosive GERD) and endoscopy-negative reflux disease (or non-erosive reflux disease, NERD).[1,4] About 50% of patients with the disease have a normal endoscopy.[5,6] Erosive GERD has been associated with esophageal strictures and Barrett's esophagus.[1]

Other symptoms which could be associated with reflux disease are epigastric pain, anorexia, nausea, vomiting, haemetemesis, anemia and non specific symptoms like chronic cough, asthma not responding to the usual treatment and non cardiac chest pain.[6]

The esophagus, lower esophageal sphincter (LES) and stomach can be envisioned as a single functional unit controlled by neuro-hormonal factors. The abnormalities that contribute to GERD can start in any component of this unit, resulting particularly from disturbances in their control system. It is extremely important to identify factors and mechanisms leading to functional failure of this system so that curative therapy can be effectively applied. The key-role has been attributed to parasympathetic dysfunction, which may adversely affect motor activity of this area by increasing number of transient lower esophageal sphincter (LES)relaxation and impairing LES pressure, esophageal acid clearance and motility of the proximal stomach.[7]

The role of Helicobacter pylori (Hp) infection in GERD pathogenesis is of paramount concern due to its propensity of increasing gastric acid secretion. Plasma ghrelin level is low in subjects infected and increases significantly after eradication. Since ghrelin increases gastric secretion and has strong prokinetic action on LES functional unit, this phenomenon together with impaired vagal control may contribute to the Hp infection or eradication - related GERD development. Thus, ghrelin and vagal activity could be the missing links that partially explain relationship between GERD and Hp infection.[7]

GERD is known to cause erosive esophagitis, Barrett's esophagus and has been linked to the development of adenocarcinoma of the esophagus. Currently upper gastrointestinal endoscopy is the

The endoscopic findings suggestive of severe disease include severe esophagitis, hiatus hernia greater than 3 cm, antrum and corpus gastric atrophy.

Proton pump inhibitors (PPI) are the antisecretory drugs of choice to manage GERD-related problems. Severe GERD requires long term treatment to heal mucosal lesions and to prevent relapses and complications. The treatment is usually empirical and symptom driven. Psychological therapy is also very much required in some patients.[9]

Patients and Methods

In this open label non randomized prospective study, we assessed the response of patients with erosive GERD to esomeprazole. Patients who presented in outpatient department of Services Hospital, Lahore between May 2006 to November 2006 with symptoms of GERD were selected for gastroscopy after obtaining their informed consent.

Out of these 50 patients with endoscopic evidence of erosive GERD using LA (Los Angeles) classification were enrolled in the study. Information on demographic characteristics and clinical presentation were collected by the staff in Endoscopy department of Medical-I and recorded on standardized forms. The gastroscopy was performed with fiberoptic gastroscope using lignocaine spray and midazolam injection as pre-medication. The endoscopic findings were recorded on the same forms.

The patients were put on esomeprazole 40mg daily before breakfast for four weeks along with standard anti reflux measures. The patients were followed weekly and any change/improvement in their symptoms was recorded. Gastroscopy was repeated after 4 to 6 weeks of therapy. Simple descriptive statistics were used to evaluate the results.

Results

Out of total 50 patients, 31(62%) were males and 19 (38%) females; the age ranged from 23 to 65 years. The commonest presenting complaints were pain epigastrium 42 (84%) and retrosternal burning 40 (80%); other complaints included nausea 24 (48%), vomiting 23 (46%), haemetemesis 9 (18%) (3 patients had varices). Other associated non-specific complaints were chronic cough 6 (12%), non cardiac chest pain 5 (10%), melena 8 (16%) and sore throat 3 (6%).

Upper gastrointestinal tract endoscopy was performed in all the 50 (100%) patients and all of them had the positive findings of erosive esophagitis. Twenty (40%) patients had grade A esophagitis (LA classification), 13 (26%) had grade B, 11 (22%) had grade C and 6 (12%) had grade D esophagitis. Nineteen (38%) of the patients had mild to moderate gastritis and 7 (14%) patients had involvement of duodenum (duodenitis and duodenal erosions). Review endoscopy was performed in 49 (98%) patients (one patient refused to undergo review endoscopy).

Table-1: Symptomatology

Symptoms	Percentage of Patients
Pain Epigastrium	42 (84%)
Rerosternal Burning	40 (80%)
Nausea	24 (48%)
Vomiting	24 (26%)
Hemetemesis	09 (18%)

Table-2: Esophagitis as per LA classification

LA Grade	Percentage of Patients
A	20 (40%)
B	13 (26%)
C	11 (22%)
D	06 (12%)

Complete endoscopic recovery was observed in 37 (74%) of the patients. Sixteen (32%) patients showed complete recovery on endoscopy after 4 weeks and 21(42%) after 6 weeks. No improvement or partial improvement was noticed in 13 (26%) of the patients at 6 weeks.

Discussion

It is quite evident from the results that esomeprazole is able to attain complete endoscopic healing in 74% of the patients, though requiring 4-6 weeks. There are three other studies showing 84% to 88.1% healing rates.[10-12] The difference could be because of their continuation of follow up for 6 months. In another study the relation of age with the severity of presenting symptoms was compared and it was found that elderly patients had a significantly lower prevalence of typical gastroesophageal reflux disease symptoms. Our study confirmed their finding that the prevalence of other symptoms like anorexia, weight loss, anemia, vomiting and dysphagia significantly

antrum and corpus gastric atrophy and NSAID use also significantly increased with age i.e., older age (65-84, hiatus hernia larger than 3 cm in diameter and male sex are independent risk factors for severe esophagitis, whereas H. pylori infection, gastric atrophy, NSAID use and the presence of hiatus hernia were not.[13] Old age, male sex, and hiatus hernia size greater than 3 cm are significantly associated with severe esophagitis. Clinicians caring for older patients should be aware of the nonspecific presentation and potential severity of reflux esophagitis is in this population.

Esomeprazole was used in 235 patients with endoscopically proven reflux esophagitis and at the end of week 8, 88% patients were healed endoscopically and 90.6% of the patients were asymptomatic proving it effective in the healing of reflux esophagitis, the resolution of heartburn and in maintaining symptomatic remission.[14]

A large, multi-centre maintenance study demonstrated that esomeprazole consistently maintains more patients in remission than lansoprazole, regardless of the severity of the initial esophageal damage.[10,15] Ri-Nan Zheng conducted a comparative study in 274 patients and found esomeprazole may be more effective than omeprazole, lansoprazole and pantoprazole for the rapid relief of heartburn symptoms and acid reflux symptoms in patients with reflux esophagitis.[16]

Conclusion

Esomeprazole is an effective treatment in healing of GERD with improvement in symptoms like retrosternal burning, epigastric pain, nausea, vomiting and associated symptoms like chronic cough, asthma, non cardiac chest pain.

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