

Incidence of Hiatus Hernia among Patients with Various Upper Gastrointestinal Symptoms

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Abstract

Background and Aim: A hiatus hernia is a disorder in which parts of the abdominal cavity, most frequently the stomach, herniate into the mediastinum through the oesophageal hiatus. During an upper gastrointestinal endoscopy, hiatal hernias are frequently discovered. The goal of the current study was to determine the prevalence of hiatus hernia among individuals who had different upper gastrointestinal symptoms.

Material and Methods: This was a Prospective study done in patients who presented to the surgical outpatient at Tertiary care institute of India and associated medical college for the duration of 1 year upper gastrointestinal endoscopy after complaining of upper gastrointestinal problems. 600 patients in total were enrolled in the research.

Results: Out of the total 600 study patients, majority 200 (33.33%) of the patients belonged to the age group of 46 to 60 years followed by 31 to 45 years 190 (31.66%). Of the total 600 patients the common symptoms with which majority of the patients presented was dyspepsia 370 (61.66%) followed by 290 (48.33%) belching and 250 (41.66%) epigastric pain. A total of 115 (19.16%) and 43 (7.16%) study patients had lax hiatus and hiatus hernia respectively. Though lax hiatus was more commonly seen among female compared to male and hiatus hernia observed more in male than female, there was no statistical significance observed among both the gender.

Conclusion: The incidence of hiatus hernia in this study has shown to be significantly lower compared to the overall sample size of 600 patients. Incidentally, most of the patients belonged to the age group of 46-60 years presenting with dyspepsia as the major complaint.

Keywords: Dyspepsia, Epigastric pain, Hiatus Hernia, Lax Hiatus.

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Introduction

A disorder known as a hiatus hernia occurs when parts of the abdominal cavity, most frequently the stomach, push through the oesophageal hiatus and into the mediastinum [1]. Reflux symptoms, reflux esophagitis, Barrett's oesophagus, and oesophageal cancer

are all intimately associated to hiatal hernia [2]. GERD symptoms such heartburn, acid regurgitation, epigastric discomfort, dyspepsia, nausea, bloating, and belching are much more common in patients with hiatal hernia [2-4]. During an upper gastrointestinal

endoscopy, hiatal hernias are frequently discovered [3]. There are four main types of hiatus hernia: type 1 ("sliding"), which is the most common, is characterised by the herniation of the esophagogastric junction (EGJ) above the diaphragm, leaving the stomach in the abdomen; type 2 ("pure paraesophageal") is characterised by the thoracic migration of the gastric fundus while the esophagogastric junction remains in the correct position; Type 3 ("mixed") hiatus hernias combine both type 1 and type 2 components and Type 4 ("giant") hiatus hernias involve the entire stomach as well as other abdominal viscera, including the colon, omentum, small bowel, liver, and spleen [5].

The oesophageal hiatal orifice, which has its long axis in the sagittal plane and is elliptically shaped, is an opening through the diaphragm via which the oesophagus and vagus nerves enter the belly. Although there is significant anatomic variation, the most typical anatomic pattern is for the right diaphragmatic crus to form the hiatus [6].

According to the generally accepted indications for antireflux surgery: poor compliance to long-term medical therapy, requirement of high doses of drugs, and young patients wanting to avoid lifetime medical treatment, surgical therapy (either open or laparoscopic) could be given to hiatal hernia patients with severe and refractory GERD symptoms [2].

Since Allison first underlined its relationship with GERD in 1951, it was first believed that the existence of a hiatus hernia, an anatomical defect, constituted a sine qua non in the pathophysiology of GERD [7].

The majority of cases of hiatus hernia, a common condition, are isolated. Rare familial occurrences that span more than one generation were first documented by Myles in 1939 [8]. Present study was done to identify the incidence of hiatus hernia among patients with various upper gastrointestinal symptoms.

Material and Methods

This prospective study was conducted on patients who complained of upper gastrointestinal symptoms over the course of a year and underwent upper gastrointestinal endoscopy at the surgical outpatient department of the Tertiary Care Institute of India and its affiliated medical college. On the basis of the universal sample technique, the patients were chosen. According to the standards set by the ethical clearance committee, informed written agreement from the patient and the attainer was obtained after the patients were maintained off of oral sedation the previous evening. 600 patients in total were enrolled in the research. After spraying 10% Xylocaine in the mouth and pharynx, the patient was made to lie in the left lateral position. After about 10-15 minutes once the anesthetic effect has set in, the flexible fibre optic esophago-gastro-duodenal endoscope was introduced orally and the oesophagus, stomach up to the 2nd part of duodenum was visualized and looked for any herniating contents, laxity of the oesophageal hiatus, ulcers, gastroesophageal reflux.

Inclusion criteria: Patients over 18 years of age; patients who came to the surgery outpatient with complaints of dyspepsia, heartburn, vomiting, haematemesis, excessive belching, epigastric discomfort, regurgitation were included in the study.

Pediatric patients under the age of 16, patients exhibiting a massive upper GI bleed, corrosive poisoning, patients who are unconscious or unstable, patients who have been previously diagnosed with upper GI cancer, anaemia brought on by chronic illness, and patients who have lost weight on purpose are all excluded from the study.

Statistic Evaluation

Microsoft Excel 2007 was used to compile and input the collected data, which was then exported to the data editor page of SPSS version 15 for analysis (SPSS Inc., Chicago,

Illinois, USA). The level of significance and confidence level for each test were set at 5% and 95%, respectively.

Results

Out of the total 600 study patients, majority 200 (33.33%) of the patients belonged to the age group of 46 to 60 years followed by 31 to 45 years 190 (31.66%). (Table 1) Very few people 90 (15%) were <30 years old and the least 120 (20%) were >60 years old. Equal gender distribution, male 288 (48%) and female 312 (52%) was observed among the patients. (Table 2)

Of the total 600 patients the common symptoms with which majority of the patients presented was dyspepsia 370 (61.66%) followed by 290 (48.33%) belching and 250 (41.66%) epigastric pain (Table 1). Only 83 (13.83%) of the study patients who presented

with various complaints showed normal study in upper GI endoscopy. A total of 115 (19.16%) and 43 (7.16%) study patients had lax hiatus and hiatus hernia respectively.

Rests of the 442 (73.66%) patients were diagnosed with other disease. Of all the 115 (19.16%) patients presenting with lax hiatus, 49 (42.60%) had it exclusively while 6 (5.21%), 37 (32.17%), 12 (10.43%), 11 (09.56%) had it associated with antral gastritis, diffuse gastritis, pan gastritis and oesophagitis respectively. 37 of 43 patients (86.04%) with hiatus hernia had diffuse gastritis too. These values were statistically significant with a $p < 0.001$. Though lax hiatus was more commonly seen among female compared to male and hiatus hernia observed more in male than female, there was no statistical significance observed among both the gender. ($p > 0.05$).

Table 1: Age-wise distribution of study subjects

Age (Years)	Number	Percentage (%)
< 30	90	15
31-45	190	31.66
46-60	200	33.33
>60	120	20

Table 2: Gender-wise distribution of study subjects

Gender	Number	Percentage (%)
Male	288	48
Female	312	52
Total	600	100

Table 3: Distribution of symptoms among the study population

Symptoms	Number	Percentage (%)
Dysphagia	80	13.3
Loss of appetite	110	18.33
Vomiting	90	16
Belching	290	48.33
Dyspepsia	370	61.66
Epigastric pain	250	41.66

Discussion

In a case of a hiatus hernia, the gastro-oesophageal junction and the stomach are the main abdominal organs that are proximally

displaced over the diaphragm and into the mediastinum [9]. Preoperative tests such upper endoscopy and barium swallow X-ray

examinations were shown to have lower sensitivity in some situations in a Romanian study, which explains why nearly half (43.37%) of the patients with HHs were found intraoperatively [9]. The most frequent endoscopic procedure is oesophagogastroduodenoscopy (OGD) [10]. Today, upper GI endoscopy plays a significant role in the diagnosis and treatment of upper GI illnesses [11]. The oesophagus, gastroesophageal junction, stomach, duodenal bulb, and second section of duodenum up to ligament of Treitz are all adequately visualized. To get comprehensive views of the gastric cardia and fundus, the gastroscope must be retroverted within the stomach. Patients in the current study had upper GI endoscopies mostly for symptoms such as dyspepsia, upper abdominal pain, belching, vomiting, and decreased appetite in addition to other upper gastrointestinal symptoms, and 4.8% of the participants had hiatus hernias. The two most prevalent risk factors for HH are age and obesity [12-14].

Overweight or obese individuals experience a progressive rise in intra-abdominal pressure compared to those with a normal body weight, which results in herniation [15]. Another study discovered that having HH was highly correlated with having an excessive body mass index, and that the likelihood of having HH increased with each degree of BMI [16]. This was confirmed in a meta-analysis by Menon and Trudgill [17], who found that the odds ratio for HH was 1.93 (95% CI: 1.10-3.39) in patients with a BMI more than 25, with the risk rising as the BMI rose.

Since the majority of patients with severe esophagitis had hiatal hernias and there is a strong correlation between reflux esophagitis and hiatal hernias, both the presence and size of the hernia were critical factors in the current investigation. It is crucial to use oesophagogastroduodenoscopy as an early diagnostic tool, to provide appropriate and adequate treatment, and to promptly perform surgery if necessary in order to prevent severe

complications of hiatus hernia and protracted acid reflux. Barrett's oesophagus and oesophageal adenocarcinoma are largely caused by the disruption of many antireflux mechanisms that results in increased oesophageal acid exposure [2,3]. According to the majority of research, a barium swallow is still necessary to diagnose hiatus hernias [18]. Today, upper GI endoscopy plays a significant role in the diagnosis and treatment of upper GI illnesses [19]. Although we were able to spot a variety of diseases among the patients at our facility, the fact that this study only had one subject limits the depth of our investigation.

OGD is usually appropriate when a patient's symptoms are persistent despite empirical therapy or associated with warning signs such as intractable vomiting, anaemia, weight loss, dysphagia or bleeding.

Conclusion

The incidence of hiatus hernia in this study has shown to be significantly lower compared to the overall sample size of 600 patients. Incidentally, most of the patients belonged to the age group of 46-60 years presenting with dyspepsia as the major complaint. A multi-centered sampling with a more detailed history on the food habits, lifestyle, and geography would be more informative to assess the factors that influence the incidence of hiatus hernia.

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