

ORIGINAL ARTICLE

Clinical profile of patients presenting with dysphagia - an experience from a tertiary care center in North India

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Abstract

Background and Aim: Dysphagia can lead to substantial morbidity and mortality, especially in the elderly. It has both benign and malignant causes. Despite having a varied etiology, there have been few studies in India. Therefore, a study was undertaken to evaluate the clinical profile and various etiologies of dysphagia.

Methods: A prospective study was conducted on 220 patients with a complaint of dysphagia. Detailed history and examination, endoscopy and biopsies, and barium swallow were performed. Computed tomography and magnetic resonance imaging were performed wherever required. Patients who had an oropharyngeal or neurological cause of dysphagia were excluded.

Results: The mean age of patients was 57.2 years, with the male: female ratio being 1.7:1. Of the patients, 35% (78 patients) had malignant etiology, with a mean age of 65.2 years, and 65% (142 patients) had a benign etiology, with a mean age of 51 years. Among the patients with malignancy, 56 had squamous cell carcinoma of esophagus (71.7%), 20 had adenocarcinoma of esophagus (25.7%), and 2 had gastric cardia adenocarcinoma (2.6%). Malignancy was most commonly located in distal esophagus (48 patients), and among the cases, 18 had involvement of the gastroesophageal junction. The most common benign cause was esophagitis secondary to reflux in 25.5% (56 patients), followed by esophageal ulcer in 5.9%, achalasia in 5%, corrosive stricture in 4.5%, and peptic stricture in 3.6%.

Conclusion: Dysphagia has diverse etiology, and a majority can be diagnosed by endoscopy and barium swallow. Malignancy is an important cause of dysphagia in elderly. Esophageal squamous cell carcinoma remains the most common malignancy, but the incidence of gastroesophageal junctional adenocarcinoma is increasing.

Introduction

Dysphagia is an impairment of swallowing involving any structure of the upper gastrointestinal (UGI) tract, from the mouth to the lower esophageal sphincter. It either presents with difficulty in the initial phases of a swallow (oropharyngeal dysphagia) or as a sensation that food and liquid are being obstructed in their passage from the mouth to the stomach (esophageal dysphagia).

Esophageal dysphagia is frequently encountered in clinical practice. The prevalence of dysphagia in a recent population-based study was approximately 17% in the adult population.¹ It is a common symptom of a number of gastrointestinal (GI) disorders such as benign stricture of the esophagus, malignant stricture of the esophagus, esophagitis, foreign body in the esophagus, fibrous rings/webs within the esophagus, and extrinsic compression of the esophagus.

Dysphagia can be associated with significant morbidity and mortality. Untreated dysphagia can lead to dehydration, malnutrition, respiratory infections, and death. Elderly patients with symptoms of dysphagia are at increased risk of the complications of dysphagia, including aspiration pneumonia.² Patients with

dysphagia suffer significant social and psychological burden associated with their symptoms of difficulty with swallowing, including anxiety during meals or avoidance of eating with others.

Despite having such varied etiology, there have been very few studies on dysphagia in India. Therefore, we conducted our study to determine the clinical profile of the patients diagnosed with esophageal dysphagia in a tertiary care hospital of North India with the objective of classifying the various causes of dysphagia and identifying their risk factors.

Methods

This prospective study was conducted on both out- and inpatients presenting to the Department of Gastroenterology from January 2018 to October 2018 with the predominant symptom of difficulty in swallowing solids, liquids, or both. The study was conducted at Sir Sunderlal Hospital, Institute of Medical Sciences, a tertiary care center affiliated to Banaras Hindu University in North India.

The inclusion criteria for the study were any adult above 18 years of age complaining of difficulty in swallowing solids,

liquids, or both. Patients who were younger than 18 years of age and/or had an oropharyngeal or neurological cause of dysphagia were excluded from the study. A total of 220 patients were analyzed.

Detailed history regarding onset, duration, severity, and progression of symptom was obtained. Patients were categorically asked about tobacco habits and alcohol intake. A patient's general health information was also reviewed, including long-term illnesses (diabetes mellitus, hypertension) and drug history. All the patients underwent a detailed general physical examination and focused organ or symptom-specific examination.

To identify the etiology of dysphagia, barium swallow and UGI endoscopy was performed. A barium study was the first step in evaluating patients with dysphagia, followed by UGI endoscopy. Barium study helps to assess the structural and functional integrity of the esophagus at a reasonable cost to the patients.

UGI endoscopy was performed with an Olympus GIF-H170 video GI scope; each endoscopy was evaluated by an endoscopist and his colleague. UGI endoscopy provides the best assessment of the esophageal mucosa and allows the undertaking of biopsy of suspicious-looking lesions. Computed tomography (CT) and magnetic resonance imaging (MRI) were performed wherever required.

Ethical clearance for the study was obtained from the Institutional Ethical Committee. Informed consent was obtained from each participant using their native language. Statistical analysis was performed with the help of Microsoft Excel, and mean, percentage, and proportions were used.

Results

The mean age of patients in our study was 57.2 years. The maximum number of patients were in the 41–60 years subgroup (88 patients), followed by 61–80 years subgroup (84 patients) (Fig. 1). The number of males in our study was 140, and 80 were female.

Of the 140 male patients in our study, 98 were habituated to tobacco smoking/chewing, 62 were habituated to alcohol (60–80 gm/day), and 52 were habituated to both alcohol and tobacco consumption. Of the 80 women, 33 had a habit of

tobacco smoking/chewing, and none of the females were habituated to alcohol.

Among the total patients evaluated, 35% (78 patients) had a malignant etiology, and 65% (142 patients) had a benign etiology for dysphagia (Fig. 2).

Of the patients with malignancy, mean age of patients was 65.2 years (78 patients). The male to female ratio was 2.9:1 (58 male, 20 female) in malignant patients.

A total of 56 patients had squamous cell carcinoma (SCC) of the esophagus, 20 patients had adenocarcinoma (AC) of the esophagus, and 2 patients had gastric cardia AC. All the patients with malignancy were habituated to tobacco smoking/chewing.

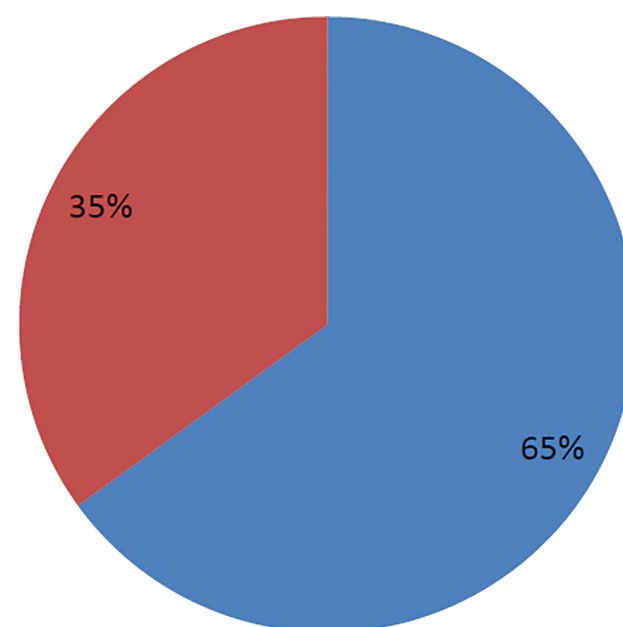


Figure 2 Percentage distribution of benign and malignant etiology of dysphagia. (■), Benign; (■), malignant.

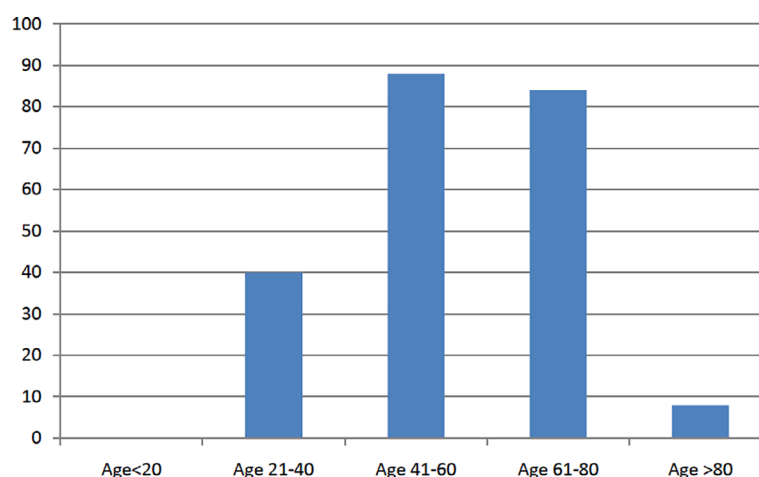


Figure 1 Age distribution of patients. (■), Patients.

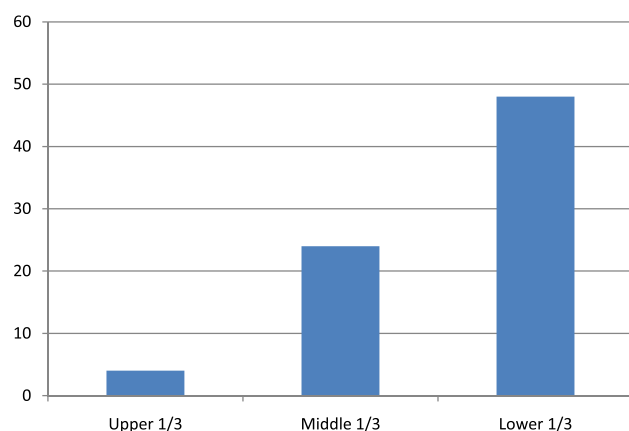


Figure 3 Distribution of malignancy along esophagus. (■), Patients.

Table 1 Table showing frequency of various benign etiologies

Pathology	Patients (n = 220)
Esophagitis	56 (25.5%)
Esophageal ulcer	13 (5.9%)
Achalasia	11 (5%)
Corrosive stricture	10 (4.5%)
Peptic stricture	8 (3.6%)
Hiatus hernia	6 (2.7%)
Esophageal ring	5 (2.2%)
Postsclerotherapy stricture	4 (1.8%)
Eosinophilic esophagitis	3 (1.3%)
Esophageal web	2 (0.9%)
Esophageal candidiasis	2 (0.9%)

The malignancy was most commonly present in lower third of the esophagus, followed by middle third and upper third. Eighteen patients had involvement of the gastroesophageal (GE) junction; among them, 16 patients had an esophageal AC, and 2 had AC of the cardia (Fig. 3).

The mean age of patients having a benign cause of dysphagia was 51 years. The most common benign cause was esophagitis secondary to GE reflux in 25.5% (56 patients), followed by esophageal ulcer in 5.9% (13 patients), achalasia in 5% (11 patients), corrosive stricture in 4.5% (10 patients), and peptic stricture in 3.6% (8 patients). Among other benign causes of dysphagia were hiatus hernia, postendoscopic sclerotherapy stricture, eosinophilic esophagitis, and esophageal ring and web. Two patients had esophageal candidiasis (Table 1). Twenty-two patients had a normal finding on endoscopy.

Among patients with GE reflux disease, the mean age was 48.6 years, and it was more common in females (34 females: 22 males).

Discussion

Dysphagia may result from structural or neuromuscular disorders of the esophagus. It is a commonly encountered clinical problem,

and limited data exist regarding the prevalence of dysphagia etiologies.³

It is a growing health concern in the aging population. In our study, 220 patients were taken into consideration, and the mean age of the patients included in the study was 57.2 years. A study on temporal trends in dysphagia etiologies found the mean age of the patients to be 53.5 years.⁴

This is mainly due to changes in swallow physiology with advancing age. Reductions in muscle mass and connective tissue elasticity result in the loss of strength and range of motion. These age-related changes can negatively impact the effective and efficient flow of swallowed materials through the upper aerodigestive tract.⁵

In our study, the ratio of dysphagia cases among male (63.6%) and female (36.4%) patients was observed to be 1.75:1. Kishve *et al.*, in their study of esophageal dysphagia, found similar gender disparity in their results.⁶ Male preponderance in the present study may be due to greater exposure of this gender to alcohol intake and smoking and chewing tobacco.

Malignancy is an important cause of dysphagia, which leads to significant morbidity and mortality. A study of 150 patients from central India evaluating dysphagia showed that maximum cases were due to carcinoma esophagus (47%).⁷ The total percentage of patients with a malignant pathology for dysphagia was 35% (78 patients) in the current study.

The mean age of patients with a malignancy was 65.2 years. In a study of the epidemiology of esophageal cancers, the mean age at diagnosis was 67 years.⁸ Shil *et al.* observed that esophageal carcinoma was seen in the sixth decade of life, followed by the seventh and fifth decades.⁹ This implies that dysphagia is an alarming symptom in the elderly and should be evaluated promptly.

Many studies have stated that esophageal cancer is more common in men than in women.^{10,11} A study from the Christian Medical College Hospital, Vellore, comprising 138 patients with esophageal cancer, reported that the male: female ratio was about 3:1.¹² In our study the male: female ratio was 2.9:1 (58 males and 20 females). The plausible explanation for this gender difference may be due to differences in the exposure to risk factors such as tobacco smoking/chewing and alcohol.

There is regional variation in the pathology of esophageal cancer. It has been reported that, in countries with a higher human development index (HDI), there is a higher incidence of AC of the esophagus.¹³ On the contrary, in countries with low HDI, such as India, there is a higher incidence of esophageal SCC. Currently, SCC is the most common type of esophageal cancer in the Indian subcontinent, and the most common location is the distal third of the esophagus.¹⁴ In our study SCC was found in 72% of patients with malignancy, and the most common malignancy site was the distal third of the esophagus.

The GE junction (GEJ) forms the border between the distal esophagus and the proximal stomach. In the eighth edition of the American Joint Committee on Cancer (AJCC) TNM staging system, cancers involving the GEJ that have an epicenter no more than 2 cm into proximal stomach were staged as esophageal AC. Cancers with an epicenter more than 2 cm distal from the GEJ, even if the GEJ is involved, were staged as stomach cancers.¹⁵

The incidence of GEJ carcinoma has risen significantly since the early 1970s in western countries such as United States, Sweden, Canada, Great Britain, and much of Europe.^{16–20} Data on the incidence of GEJ carcinoma in Asian countries are lacking. Recently, Hatta *et al.* reported an increase in the incidence of GEJ AC in three Asian countries.²¹

In our study, 23% of the malignancy involved the GEJ (18/78). Sixteen had esophageal AC, and two originated from the cardia of stomach. A study showed that combinations of risk factors such as smoking, obesity, and reflux may account for almost 70% of total cases of GEJ carcinoma.²² Our study population also demonstrated these risk factors, resulting in 18 cases of GEJ malignancy.

The most common benign cause of dysphagia in our study was esophagitis due to GE reflux disease (GERD). The diagnosis of GERD was made after carefully excluding obstructive pathology and response to proton pump inhibitor (PPI) treatment in the present study. Typical symptoms of GERD include heart burn, regurgitation, and dysphagia.²³

In our study, the etiology of dysphagia was attributed to GERD in 25.5% of cases. This is similar to the study conducted by Kidambri *et al.* where GERD was one of the common causes of dysphagia.⁴ The majority of patients in our study with dysphagia because of GERD were females. In a study conducted on dysphagia in GERD, 58.73% of patients were females.²⁴

Achalasia cardia was found in 5% of our patients (11 patients). The mean age of patients with this disorder was 47.4 years, and there were six males and five females. A study by Sahu *et al.* evaluating patients with esophageal dysphagia reported that 3% of patients had achalasia cardia.⁷

Ingestion of corrosive substances remains an important public health issue. These injuries are increasing in developing countries due to the social, economic, and educational issues.²⁵ The problem is largely unreported in these settings, and therefore, its true prevalence cannot be determined. In our study, 4.5% of patients had a corrosive stricture, and mean time to stricture development was 7 weeks in our study. A study showed that strictures usually develop within 8 weeks after ingestion in 80% of patients, but it can occur as early as after 3 weeks or as late as after 1 year.²⁶

Conclusion

Dysphagia, being a common presenting complaint in the gastroenterology clinic, needs to be evaluated thoroughly for proper management. It has varied etiology, and most patients can be diagnosed with a combination of UGI endoscopy and barium swallow. Malignancy is an important cause of dysphagia, especially in the elderly. Esophageal SCC remains the most common malignancy, but the incidence GEJ AC is on the rise.

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