ORIGINAL ARTICLE

ENDOSCOPIC FINDINGS IN PATIENTS PRESENTING WITH OESOPHAGEAL DYSPHAGIA

Adil Naseer Khan, Khalid Said, Mukhtar Ahmad*, Kishwar Ali*, Rania Hidayat, Humera Latif

Department of Gastroenterology, *Surgery, Ayub Medical College, Abbottabad, Pakistan

Background: Dysphagia is the difficulty in swallowing and is often described by the patients as a 'perception' that there is an impediment to the normal passage of the swallowed material. It is frequently observed that there is an association of dysphagia with serious underlying disorders and warrants early evaluation. The current study aimed to determine the frequency of common endoscopic findings in patients presenting with oesophageal dysphagia. **Methods:** This cross-sectional descriptive study was carried out in the department of Gastroenterology, Ayub Medical College, Abbottabad, from October 2012 to April 2013. Consecutive patients with dysphagia were included in the study and were subjected to endoscopy. **Results:** A total of 139 patients presenting with dysphagia were studied, 81 (58.3%) were males and 58 (41.7%) were females. The mean age was 52.41±16.42. Malignant oesophageal stricture was the most common finding noted in 38 (27.3%) patients with 28 (73.7%) males and 23 (60.5%) patients among them were above the age of 50years. It was followed by normal upper Gastrointestinal (GI) endoscopy in 29 (20.9%) patients and reflux esophagitis in 25 (18.0%) patients. Schatzki's ring was present in 14 (10.1%) patients; benign oesophageal strictures in 12 (8.6%) patients while achalasia was noted in 7 (5.0%) patients. 14 (10.1%) patients had findings other than the ones mentioned above. **Conclusion:** Malignancies are a more common cause of dysphagia in our population and early diagnosis can result in proper treatment of many of these cases.

Keywords: Endoscopy, dysphagia, malignancy, reflux esophagitis, Schatzki's ring, achalasia

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INTRODUCTION

Dysphagia is a Greek word that means difficulty in swallowing.[1] It may arise from problems in transferring the food bolus from the oropharynx to the upper oesophagus (oropharyngeal dysphagia) or from impaired transport of the bolus through the body of the oesophagus into the stomach (oesophageal dysphagia).[2]

Dysphagia poses a significant risk to one's health as it is associated with malnutrition, dehydration, weight loss, anaemia and respiratory complications like aspiration pneumonia and airway obstruction.[3] It detracts from the quality of life and complicates the administration of solid medications along with deprivation from the pleasurable activity of eating.[3,4] It may be an alarm symptom as in the case of carcinoma of oesophagus or in cases of foreign body aspiration where it may result in perforation of the hypo-pharynx and oesophagus, with consequent mediastinitis, pneumonia and lethal sepsis.[5]

Oesophageal dysphagia is frequently encountered in clinical practice.[1] The prevalence of dysphagia in the otherwise healthy general population is difficult to determine but in a recent population-based study focused on dysphagia, it was found that among an adult population, the prevalence of dysphagia was up to 17%, with a peak in the 40–49-years age group for both males and females, indicating that dysphagia is a remarkably common condition in the general population.[1] In individuals 55 years and older, the prevalence of dysphagia was even higher, i.e., 22.3% making it a particularly common problem in the elderly population.[1,6] Similarly, greater than 40% of patients in institutionalized settings have the complaints of dysphagia.[7] In a local study, as much as 7% of the cases referred to tertiary care centre for specialist gastroenterologist opinion suffered from dysphagia.[8]

Oesophageal dysphagia is the disordered movement of food within the esophagus.[1] It is a common symptom of a number of GI disorders such as benign strictures of the oesophagus (peptic, corrosive, post-operative), malignant strictures of the oesophagus and cardia of the stomach, esophagitis (Reflux, candidal or esinophilic), foreign body in the oesophagus, fibrous rings/webs within the oesophagus, extrinsic compression of the oesophagus as well as a number of oesophageal motility disorders.[9] Literature review show that in patients with dysphagia, upper GI Endoscopic findings were normal (32.5%), Schatzki's ring (25%), malignant oesophageal stricture (22.5%), reflux esophagitis (10%) and benign oesophageal stricture (5%).[10] In another study, benign oesophageal stricture was found in 21% and achalasia in 14% of the patients presenting with dysphagia.[11] In addition, the base rate of the diseases which may cause dysphagia tends to

differ between Western Europe and North America and South Asia, Middle East and Africa. Also the base rate of these etiological diseases vary according to the age and gender of the patient and the symptoms in addition to dysphagia.[12, 13]

Due to the deleterious effects of dysphagia on one's health and more importantly, due to its common association with reflux esophagitis (and hence Barrett's oesophagus and adeno-carcinoma of the oesophagus if longstanding) and carcinoma of the oesophagus, dysphagia should always be investigated.[9] Upper GI endoscopy is the diagnostic modality of first choice for patients with dysphagia as it allows direct visualization of the lesion within the oesophagus. Furthermore, biopsy and dilatation of the suspicious strictures/lesions may be undertaken as well.[9] Upper GI Endoscopy is considered a safe procedure with a complication risk of approximately 1 per 1000 procedures.[14] The mortality rate is between 0.5–3 deaths per 10,000 procedures. [14] Common complications include bleeding, infection, perforation, cardiopulmonary problems and adverse reaction to medications.[14]

The current study aimed to determine the frequency of common endoscopic findings in patients presenting with oesophageal dysphagia.

MATERIAL AND METHODS

This cross-sectional descriptive study was conducted at the department of gastroenterology, Ayub Medical College, Abbottabad, Pakistan from October 2012 to April 2013. Consecutive sampling technique was used and sample size was 139 keeping in view 10%[10] proportion of reflux esophagitis in patients with oesophageal dysphagia, 95% confidence interval and 5% margin of error under WHO sample size calculations.

All patients of both genders with age more than 12 years having oesophageal dysphagia of more than 03 weeks duration were included**.** Patients with Oro-pharyngeal dysphagia and globus sensation were excluded from the study

All patients who met the inclusion criteria were admitted to the Gastroenterology unit of Ayub Teaching Hospital, Abbottabad through OPD and Emergency. Procedure, purpose and benefits of the study were explained to the patients and a fully informed, written and voluntary consent was obtained.

Patients admitted to the ward were prepared for Upper GI endoscopy after taking a detailed history, performing a thorough physical examination and carrying out the necessary baseline investigations. Upper GI endoscopy was performed on the next list and findings were identified as benign oesophageal stricture, malignant oesophageal stricture, reflux esophagitis, Schatzki's ring and achalasia of the oesophagus. Biopsies were taken and sent for histopathology where indicated and all the histopathologies were reported by single expert histopathologist.

All the data recorded was entered and analysed in SPSS-14. Frequency and percentages were calculated for categorical variables like gender and common upper GI Endoscopic findings (i.e., benign oesophageal stricture, malignant oesophageal stricture, reflux esophagitis, Schatzki's ring and achalasia. Mean±SD were calculated for numerical variables like age and duration of dysphagia. Common upper GI Endoscopic findings were stratified among age, gender and duration of dysphagia to see the effect modifiers.

RESULTS

The study group comprised of 139 patients. The minimum age was 14 and the maximum age was 90 years. The mean age of the patients was 52.41±16.42. Majority of the patients, 76 (54.7%) were in the age group above 50 years, followed by 53 (38.1%) in the age group 31–50 years and 10 (7.2%) in the age group 12–30 years (Table-1). There were 81 (58.3%) males and 58 (41.7%) females. In the age group 12–30 years, 6 (60%) were male and 4 (40%) were female. In the age group 31–50 years, 23 (34.4%) were male and 30 (56.6%) females. In the age group above 50 years, 52 (68.4%) were male and 24 (31.6%) were females (Table-1).

The minimum duration of dysphagia noted was 4 weeks while the maximum duration of dysphagia was 78 weeks. The mean duration of dysphagia was 29.67±15.61 weeks. On the basis of duration of dysphagia, patients were classified into three groups, i.e., from 3 to 12 weeks of dysphagia, 13–24 weeks and more than 24 weeks of dysphagia. Most of the patients 74 (53.2%) were having dysphagia for more than 24 weeks, followed by 54 (38.8%) in the 13–24 weeks group and 11 (7.9%) in the 3–12 weeks group.

Malignant oesophageal stricture was, over all, the most common finding noted in 38 (27.3%) cases. It was followed by Normal upper GI endoscopy in 29 (20.9%), Reflux Esophagitis in 25 (18.0%), Schatzki's ring in 14 (10.1%), Benign oesophageal stricture in 12 (8.6%) and Achalasia in 7 (5.0%) of cases. 14 (10.1%) patients had finding other than the ones noted above (Table-2).

Apart from the normal upper GI endoscopy, all other conditions were more common as the age of the patients increased indicating that the prevalence of these conditions increases with age. In the age group 12–30 years, malignant oesophageal stricture (40.0%) was the most common finding followed by

normal (20.0%) and reflux esophagitis (20.0%). Normal upper GI endoscopy (28.3%) followed by malignant oesophageal stricture (20.8%) and reflux esophagitis (18.9%) were the common finding in the age group 31–50 years. In the age groups >50 years, malignant stricture (30.3%) followed by reflux esophagitis (17.1%), normal (15.8%) and Schatzki's ring (10.5%) were the common findings.

Malignant oesophageal stricture was more common in males (73.7%) than in females (26.3%). Similarly reflux esophagitis (60%), Schatzki's rings (64.3%) and achalasia (57.1%) were more common in males. Females, on the other hand, had more normal upper GI endoscopies (65.5%) compared to males. Malignant oesophageal stricture (36.4%) was the most common findings followed by normal and reflux esophagitis (27.3% each) in the dysphagia duration group 3–12 weeks. In the duration groups 13–24 weeks, most common finding was normal (31.5%) followed by malignant stricture (24.1%) and reflux esophagitis (16.7%). In those having dysphagia for more than 24 weeks, malignant oesophageal stricture (28.4%) was the commonest abnormality followed by reflux esophagitis (17.6%). Achalasia was exclusively seen in those having dysphagia for more than 24 weeks indicating that patients with achalasia often report late for medical advice.

Table-1: Age groups with gender of the patient cross tabulation

			Gender		
			Male	Female	Total
Age groups	12–30 years	Count	6	4	10
		% within Age groups	60.0%	40.0%	100.0%
	31–50 years	Count	23	30	53
		% within Age groups	43.4%	56.6%	100.0%
	more than 50 years	Count	52	24	76
		% within Age groups	68.4%	31.6%	100.0%
Total		Count	81	58	139
		% within Age groups	58.3%	41.7%	100.0%

Table-2: Common endoscopic findings

Endoscopic Findings	Number (%)
Malignant oesophageal stricture	38 (27.3%)
Normal upper GI endoscopy	29 (20.9%)
Reflux esophagitis	25 (18.0%)
Schatzki's ring	14 (10.1%)
Benign oesophageal stricture	12 (8.6%)
Achalasia	7 (5.0%)
Other findings	14 (10.1%)

DISCUSSION

Dysphagia or difficulty in swallowing is a common problem often encountered in clinical practice.[1] It is also a common cause of referral to a gastroenterology specialist.[15] Oesophageal dysphagia is the dysphagia which arises from impaired transport of the food bolus through the body of the oesophagus into the stomach.[2] Commonly identified causes of oesophageal dysphagia include benign oesophageal strictures, malignant oesophageal stricture, reflux esophagitis, Schatzki's ring, external compression from a malignancy, motility disorders and achalaisa.[9] There is, however, no or little, if any, data on the relative frequencies of different endoscopic findings in patients with dysphagia and whether or not they change according to the patient's demographics.[11] Recently, in a population-based study focused on dysphagia, it was found that among an adult population, prevalence of dysphagia was up to 17%, with a peak in the 40–49 years age group for both males and females.[1] It was even more prevalent in the elderly and in the institutionalized patients.[1,6,7]

Upper GI endoscopy is considered the diagnostic modality of first choice for patients presenting with dysphagia as it allows direct visualization of the lesion within the oesophagus. Furthermore, biopsy and dilatation of the suspicious strictures/lesions may be undertaken as well.[9] Upper GI Endoscopy is considered a safe procedure of the initial evaluation of dysphagia with an overall complication risk of 1 in 1000.[14]

A total of 139 patients met the pre-specified criteria for the oesophageal dysphagia and were included in our study. 81 (58.3 %) of them were males and 58 (41.7%) were females. The mean age of the patients was 52.41±16.42. Majority of the patients 76 (54.7%) were in the age group above 50 years, followed by 53 (38.1%) in the age group 31–50 years and 10 (7.2%) in the age group 12–30 years indicating that dysphagia is more common in the higher age groups, a fact similarly observed by Wilkins et[6] al stating that the prevalence of dysphagia increases with age and poses particular problems in the elderly subjects potentially compromising the nutritional status, increasing the risk of aspiration pneumonia and adversely affecting the quality of life.

Malignant oesophageal stricture due to carcinoma of the oesophagus or carcinoma of the stomach involving the cardia (and the lower oesophagus) was overall the most common finding noted in 28 (37.3%) patients. Malignant oesophageal strictures were more common in males (73.7%) than in females (26.3%), patients having age more than 50 years (60.5%) than those having age 12–30 years (10.5%) and those having duration of dysphagia more than 24 weeks (28.4%) indicting that malignancy is an important cause of dysphagia in the elderly males having dysphagia for prolonged duration. Malignant strictures were seen in about 13.3% of the patients in the study conducted by Satti SA *et al*.[16]Gillani N[10] *et al* identified malignant strictures as a cause of

dysphagia in 22.5% of the patients in their study. This difference may be due to geographical, dietary or life style implications in the aetiology of oesophageal or gastric malignancy and need further evaluation.

No endoscopic abnormality was noted in 29 (20.9%) patients and the upper GI was labelled as normal in such individuals. These patients were mainly females (65.5%), having age 31–50 years (51.7%) with duration of dysphagia of 13–24 weeks. This was comparable with the 20.89% frequency observed by Satti SA *et al*[16] in their study. In the study conducted by Gillani N *et al*[10] the frequency of normal upper GI endoscopy, however, was 32.5%.

Reflux esophagitis, labelled as the most common cause of dysphagia in the study conducted by Satti SA[16] (35.82%), was noted in 25 (18.0%) patients in our study making it the third most common cause of dysphagia in our study group. Krishnamurthey C *et al*[11] have also reported esophagitis as the third common cause of dysphagia in their study. Wilkins *et al*[6] have reported the prevalence of reflux esophagitis in 10% of the patients in their study group. Reflux esophagitis was more commonly seen in females (60%) than in males (40%) in our study. It was more common in the higher age groups, i.e., 52.0% in those having age above 50 years and only 10.0% in the age group 12–30 years.

Schatzki's rings accounts for about 10.1% of the cases in our study. It is more common in the males (64.3%) than in females (35.7%) and its prevalence increases with the age of the patient, i.e., 8% in those younger than 30 years, 40% in the age group 31–50 years and 52% in the age group above 50 years.

Benign oesophageal stricture was noted in 12 (8.7%) patients in our study. Peptic followed by corrosive strictures were the most common forms noted. This observation varies greatly from the one made by Krishnamurthy *et al*[11] who found benign oesophageal strictures to be the most common endoscopic abnormality in their study group. It was more common in the age group above 50 years (66.7%) and both genders are affected almost equally.

Achalasia was the underlying cause of dysphagia in 7 (5%) patients in our study group. 57.1 % cases were in the more than 50 years age group, with male dominancy of 57.1%. All these cases occurred in the patients having dysphagia for more than 24 weeks; underscoring the fact that achalasia is predominantly a disease of the elderly male with slow onset dysphagia.

Bases upon the results of our study, we conclude that dysphagia may be associated with serious underlying disorders like carcinoma of the oesophagus and carcinoma of the stomach involving lower end of the oesophagus in majority of patients in our population. Whether this high prevalence of malignancy is due to a recent increase in its occurrence or due to increased recognition remains unclear. We found that the prevalence of malignancy increases in the higher age groups, with male gender and those having dysphagia for more than a few months duration. Therefore, early upper GI endoscopy should be considered in such cases. Moreover, reflux esophagitis is also a prevalent cause of dysphagia in our set up, which in longstanding cases is also associated with adenocarcinoma of the oesophagus. Upper GI endoscopies were frequently normal in the middle aged females having dysphagia of short to medium duration. Achalasia, foreign bodies and oesophageal webs are relatively uncommon causes of dysphagia in our population.

CONCLUSION

Dysphagia may be associated with serious underlying disorders like oesophageal or gastric carcinoma in our population. The evaluation of dysphagia remains incomplete without upper GI endoscopy which should be considered at the earliest, especially in the elderly males having dysphagia of medium to long term duration to diagnose the treatable conditions like reflux esophagitis or oesophageal carcinoma at an early stage. Upper GI endoscopy is a safe and effective way to evaluate dysphagia and has both diagnostic and therapeutic value. We conclude our study with the future recommendations that more research should be done to evaluate the factors responsible for the high occurrence of oesophageal or gastric carcinoma in our population.

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Address for correspondence:

Dr Khalid Said, Department of Gastroenterology, Ayub Teaching Hospital, Abbottabad, Pakistan.
Cell: +92-313-5967028
Email: drkhalid4@gmail.com