



ETIOLOGY OF DYSPHAGIA; BASED ON UPPER GI ENDOSCOPY

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ABSTRACT... Objectives: To determine the etiology of dysphagia based on upper GI endoscopy in Nishtar Hospital Multan. **Study design:** Retrospective study. **Place and Duration of study:** This study was conducted at gastroenterology unit of Nishtar Hospital Multan from Feb 2013 to August 2014. **Patients and methods:** Three hundred and twenty three patients, ≥ 13 years old, who presented with history of dysphagia to the gastroenterology unit of Nishtar Hospital Multan. **Results:** Out of 323 patients, 43.7% were males and 56.3% were females. Mean age of patients was 44.37 ± 17.395 years. Most common finding was benign stricture (28.5% cases) followed by no abnormality (21.7%), carcinoma esophagus (20.7%), achalasia (6.5%), esophageal web (4%), ulcers (3.7%), multiple pathologies (3.1%), pharyngeal cancer (2.2%), esophageal candidiasis (1.9%), reflux esophagitis (1.5%) and hiatus hernia (1.2%). Uncommon findings were incompetent LES (0.9%), extrinsic compression (0.9%), vocal cord paralysis (0.6%), barrett's esophagus (0.6%), herpes simplex esophagitis (0.6%), shatzki ring (0.3%), diverticulum (0.3%) and thick aryepiglottic folds (0.3%). **Conclusion:** Esophagogastroduodenoscopy is the investigation of choice for patients of dysphagia. Most common finding in our study was benign stricture in young females, followed by carcinoma esophagus, achalasia, web, ulcer, pharyngeal cancer, reflux esophagitis, esophageal candidiasis and hiatus hernia. Incompetent LES, extrinsic compression, vocal cord paralysis, barrett esophagus, herpes simplex esophagitis, ring, diverticulum and thick aryepiglottic folds were rare causes. Measures should be taken to avoid the preventable causes by patient awareness and adequate treatment of predisposing factors.

Key words: Dysphagia, etiology, upper GI endoscopy.

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INTRODUCTION

Dysphagia is a Greek word which means disordered eating and it refers to the subjective sensation of obstruction while passage of food from mouth to stomach.¹ It should be differentiated from odynophagia which means pain on swallowing which can sometimes accompany dysphagia.

Its cause may be either weakness of muscles which push the food bolus from mouth to stomach or mechanical narrowing of lumen. Its causes can therefore be classified into structural dysphagia like benign strictures, malignancies, webs and rings, and motor dysphagia like achalasia and stroke.

It is important to diagnose the cause of dysphagia

as untreated dysphagia can lead to several complications like dehydration, malnutrition, respiratory infections and even death.²

Flexible upper GI endoscopy is the most useful investigation to evaluate a case of dysphagia.³

It not only allows direct visualization of the lesion but biopsy may also be taken. It also has a very important therapeutic role in certain causes like strictures which can be dilated. It can also detect esophageal dysmotility and incompetence or failure of relaxation of LES which can be further confirmed with esophageal manometry.

Purpose of this study was to find out the common causes of dysphagia in patients presenting to endoscopy unit of Nishtar Hospital Multan.

METHODOLOGY

This study was carried out from February 2013 to September 2014 in the endoscopy department of Nishtar Hospital Multan. All patients who presented with dysphagia of age 13 years and above were included in the study. Written informed consent was taken from the patients. Permission was taken from ethical committee of Nishtar Hospital Multan. Premedication was done with lignocaine spray. Procedure was done by video gastroscope Olympus 170.

Data was analysed using SPSS version 20. Endoscopic findings were analysed for their frequencies and percentages. Mean \pm SD was calculated for age.

RESULTS

Overall, 323 patients were included in the study. There were 141 (43.7%) males and 182 (56.3%) females with mean age of 44.37 ± 17.395 years.

The most common lesion was benign stricture found in 92 (28.5%) cases, followed by no abnormality detected in 70(21.7%) cases, carcinoma esophagus 67(20.7%), achalasia was observed in 21 (6.5%), esophageal web in 13 (4%) cases, ulcers in 12 (3.7%), multiple pathologies were observed in 10 (3.1%) cases, pharyngeal cancer in 7(2.2%) cases, esophageal thrush in 6 (1.9%), reflux esophagitis 5(1.5%), hiatus hernia in 4 (1.2%), incompetent lower esophageal sphincter (LES) 3(0.9%), extrinsic compression 3(0.9%), vocal cord paralysis in 2(0.6%), barrett's esophagus in 2(0.6%), herpes simplex esophagitis 01(0.3%), ring in 01(0.3%), diverticulum in 01(0.3%) and thick aryepiglottic folds in 01(0.3%).

Mean age and percentages of males and females of each cause are shown in Table-I.

Cause	No. (%Age)	Males No. (%Age)	Females No. (%Age)	Age (Mean \pm SD)
Benign Stricture	92 (28.5)	32 (34.7%)	60(65.2)	33.03 \pm 16.480
Normal	70 (21.7)	21 (30.0)	49 (70.0)	44.48 \pm 16.148
Ca esophagus	67 (20.7)	40 (59.7%)	27(40.3)	55.41 \pm 12.445
Achalasia	21 (6.5)	11 (52.4)	10 (47.6)	42.64 \pm 11.422
Web	13 (4.0)	02 (15.4)	11(84.6)	45.83 \pm 13.197
Ulcers	12 (3.7)	07(58.3)	5(41.7)	40.89 \pm 13.578
Multiple pathology	10 (3.1)	06 (60.0)	04 (40.0)	53.00 \pm 8.185
Pharyngeal cancer	07 (2.2)	04(57.1)	03 (42.9)	36.60 \pm 7.925
Esophageal Thrush	06 (1.9)	04(66.7)	02(33.3)	65.00 \pm 14.720
Reflux esophagitis	05 (1.5)	04(80.0)	01(20.0)	65.00 \pm 5.714
Hiatal hernia	04 (1.2)	02(50.0)	02(50.0)	55.00 \pm 5.774
Incompetent LES	03 (0.9)	03(100)	0(0)	46.00 \pm 3.464
Extrinsic Compression	03 (0.9)	03(100)	0 (0)	50.00 \pm 0.000
Vocal cord paralysis	02 (0.6)	01(50)	01(50)	43.00 \pm 11.314
Barrett's esophagus	02 (0.6)	0(0)	2(100)	48.50 \pm 6.364
Herpes simplex esophagitis	01 (0.3)	0(0)	1(100)	65
Ring	01 (0.3)	0(0)	1(100)	70
Diverticulum	01 (0.3)	0(0)	1(100)	70
Thick aryepiglottic folds	01 (0.3)	0(0)	1(100)	44

Table-I. (N=323)

Cause	No	% age
Ulcer + incompetent LES	02	20
Thrush + incompetent LES	02	20
Hiatus hernia + incompetent LES + ulcer	01	10
Hiatus hernia + incompetent LES + stricture	01	10
Hiatus hernia + mass	01	10
Web + mass	01	10
Thrush + stricture	01	10
Ulcer + stricture	01	10

Table-II. Multiple causes (N=10)

DISCUSSION

Dysphagia, although uncommon but is a warning symptom which must be evaluated to rule out serious causes like esophageal carcinoma. Esophagogastroduodenoscopy is the most useful investigation as many times the cause can be corrected by a simple procedure like endoscopic dilatation of a stricture, web, ring or achalasia. Moreover, biopsy may also be taken to confirm malignancy.

The purpose of our study was to find out frequencies of various causes of dysphagia in patients presenting to the endoscopy unit of Nishtar Hospital Multan.

In our study we found that majority (56.3%) of patients were females. Krishnamurthy et al and Wilkins et al also found that dysphagia is more common in females (57.1% and 80.8% cases respectively).^{4,5} While Khan AN et al found that 58.3% were males.⁶

Mean age of the patients observed was 44.37 ± 17.395 years. This is in contrast to most studies which show that dysphagia is more prevalent in the elderly.^{7,8,9} Khan MS and Khan AN observed mean ages of 52.41 and 50 years respectively.^{6,10} This difference in age is probably because benign stricture due to suicidal intake of a corrosive agent was the most common cause found in our patients. Most of these patients were young females.

The most frequently observed lesion, benign stricture was found in 28.5% cases. Mean age was 33.03 ± 16.480 and 65.2% patients were females.

60.8% cases gave an obvious history of a corrosive intake as a suicidal attempt. Krishnamurthy et al also found that benign stricture is the most common cause of dysphagia (40.8 cases%).⁴ Kishve et al found benign stricture in 16.6% and Sehgal in 17% cases.^{11,12} Gilani found it in only 5% cases as his study was conducted in USA where incidence of corrosive intake is low and peptic lesions are treated adequately.¹³ Ruigomez A et al found that in 68% cases strictures were peptic.¹⁴ While a local study by Khan AN et al also found benign stricture in only 8.6% cases.⁶

We did not find any abnormality in 21.7% cases. Mean age of these patients was 44.48 ± 16.148 and 70% were females as functional symptoms are more common in females. Gilani et al found normal esophagus in 32.5% cases.¹³ Krishnamurthy et al also found normal esophagus in 32.1% cases.⁴ Khan AN et al⁶ found no lesion in 20.9% cases, Sehgal et al in 20.7%¹² while Kishve¹¹ in 9.2% cases. So upper GI endoscopy had good diagnostic yield in our study. Eosinophilic esophagitis a well-recognized cause of dysphagia may also be associated with normal endoscopy and is confirmed on biopsy. But it is more common in western countries and has a male preponderance.¹⁵

Next common cause was carcinoma esophagus found in 20.7% cases. Mean age of patients was 55.41 ± 12.445 and 59.7% were males. Out of these 65.6% patients had malignant lesion of lower esophagus where adenocarcinoma is the typical lesion and reflux esophagitis is the predisposing factor. While remaining 34.7% patients had involvement of upper esophagus where the likely

lesion is squamous cell carcinoma with distinct predisposing factors like smoking. This is close to the observation of other studies which also show increasing incidence of adenocarcinoma of distal esophagus.¹⁶ It is one of the deadliest cancers worldwide.¹⁷ Khan MS et al found it much more frequently (in 54 % cases).¹⁰ Mean age of his patients was 50 years and 63% were males. Kishve et al found carcinoma esophagus in 27.8% cases and was the most common lesion in his study.¹¹ Khan AN et al also found malignancy in 27.3% cases.⁶ Gilani found esophageal tumors in 22.5% cases.¹³ This shows that carcinoma of esophagus is less frequent in our patients as compared to other studies.

Achalasia was found in 6.5% cases. Mean age was 42.64 ± 11.422 years and 52.4% patients were males. Similarly Khan AN et al found achalasia in 5% cases.⁶ Kim et al found that mean age of patients with achalasia was 52.5 years and 46.6% were men.¹⁸ Khan R et al also found that achalasia is more common in males.¹⁹

Esophageal web was found in 4% cases. Mean age of the patients was 45.83 ± 13.197 and 84.6% were females. As iron deficiency, an important cause of web formation known as Plummer-Vinson syndrome is more common in females. Seaman also found that 58.5% patients of esophageal web were females.²⁰ Gilani found web in only 2.5% cases as iron deficiency is less common in developed countries.¹³

Esophageal ulcers were found in 3.7% cases. Mean age of patients was 40.89 ± 13.578 and 58.3 % patients were males. Common causes of esophageal ulcers are gastroesophageal reflux disease and drugs like NSAIDs and biphosphonates. Gilani found erosive esophagitis in 10% cases.¹³

In 3.1 % cases endoscopy revealed more than one finding. Most of these were related to each other. Esophageal web was found along with a mass, which is a risk factor for squamous cell cancer of esophagus. Hiatus hernia was found along with a mass as it can also lead to reflux

which can further predispose to adenocarcinoma. Incompetent LES was present with ulcers at lower end of esophagus as a result of long standing reflux. Similarly ulcers and strictures were found together, both of which may be peptic.

Dysphagia due to cause in the hypopharynx is called oropharyngeal dysphagia and can be easily suspected by a careful history. We found pharyngeal cancer in 2.2% cases. Mean age of these patients was 36.60 ± 7.925 and 57.1% were males.

Esophageal thrush was found in 1.9% cases. It is common in immunocompromised patients. Mean age of these patients was 65.00 ± 14.720 and 66.7% were males. Kishve et al found candidiasis in 21.4 % cases. As this study was conducted in India where HIV is more common.¹¹

Reflux esophagitis was found in 1.5% cases. Mean age was 65 ± 5.714 years and 80 % were males. Kidambi et al found that non obstructive GERD is the most common cause of dysphagia.²¹ Khan AN et al found reflux esophagitis in 18% cases and Kishve et al in 5.5% cases.^{6,11} So dysphagia is an uncommon presentation of reflux esophagitis in our patients which is otherwise a common condition.

Hiatus hernia was found in 1.2% cases, mean age was 55.00 ± 5.774 years with equal male to female ratio. Kishve et al found hiatus hernia accompanied by reflux esophagitis in 5.5% cases.¹¹ But unlike our study, Sehgal et al found it in 26.4% cases.¹²

Incompetent lower esophageal sphincter was found in 0.9% cases. All patients were males and mean age was 46 ± 3.464 years.

In 0.9% patients it was found that there was narrowing of lumen due to extrinsic compression and overlying mucosa was normal. All were males and mean age was 50.00 yrs. Extrinsic esophageal compression is a rare cause of dysphagia. Common underlying causes are mediastinal lymph nodes, retrosternal goiter and

enlarged left atrium.

Barrett's esophagus was found in 0.6% cases. All were females and mean age was 48.50 ± 6.364 . It is usually asymptomatic and may be an incidental finding in our patients. But it is clearly recognized as a risk factor for esophageal adenocarcinoma. Sehgal et al also found it in 1.88% cases.¹²

Paralytic dysphagia due to vocal cord paralysis was found in only 2 cases (0.6%). Vocal cords should also be inspected in patients of dysphagia if no intrinsic lesion is found on upper GI endoscopy. Common causes of vocal cord paralysis are malignancy, commonest being carcinoma of lung, surgical trauma, inflammatory causes, neurologic disorders or it can be idiopathic.²²

Esophageal rings were found in only 0.3% case. Schatzki's ring is a lower esophageal mucosal ring and it presents with intermittent dysphagia. Khan AN et al found ring in 10.1% cases. Gilani found it in 25% cases.¹³ This shows that it is an uncommon cause of dysphagia in our setup. Diverticulum was also found in only 0.3% case. Increased intraluminal pressure secondary to a motility disorder is the suspected underlying cause for the development of such diverticula. Kishve found both ring and diverticulum in 1.8% cases.¹¹

Herpes simplex esophagitis was also found in 0.3% cases. It is a rare lesion in immunocompetent persons.²³

In only 0.3% case thick aryepiglottic folds were found. Its cause can be infection and can also cause dysphagia.

None of the above mentioned studies observed herpetic lesion or thick aryepiglottic folds. Over all 62.53 % patients in our study had an intrinsic cause of dysphagia. It was interesting to find out that most common etiology of dysphagia in our set up was a post corrosive stricture in young females due to suicidal intake. This indicates low literacy rates and deprivation of social rights among females in South Punjab.

CONCLUSION

Endoscopy is a very useful investigation to evaluate dysphagia. Benign stricture is the most common etiology in South Punjab due to a high incidence of suicidal intake of corrosives in young females which must be prohibited by awareness programmes. Next common cause is esophageal malignancy due to high prevalence of risk factors like smoking and reflux esophagitis. Smoking should also be prohibited and reflux esophagitis should be prevented as well as treated by both pharmacological and non-pharmacological measures. Other common causes observed were web, ulcers, reflux esophagitis, pharyngeal cancer, thrush, incompetent LES and extrinsic compression. Ring diverticulum, vocal cord paralysis and thick aryepiglottic folds are uncommon causes.

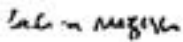

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REFERENCES

1. Ahmed A, Stacey B. **Dysphagia: Aspects of assessment and management for the Acute Physician.** *Acute Med* 2008; 7(3):107-12.
2. Ney D, Weiss J, Kind A, Robbins J. **Senescent Swallowing: Impact, Strategies and Interventions.** *Nutr clin pract* 2009; 24(3): 395-413.
3. Pasha SF, Acosta RD, Chandrasekhara V, Chathadi KV, Decker GA, Early DS, et al. **The role of endoscopy in the evaluation and management of dysphagia.** *Gastrointestinal Endoscopy.* 2014; 2(79): 191-201.
4. Krishnamurthy C, Hilden K, Peterson KA, Mattek N, Adler DG, Fang JC. **Endoscopic findings in patients presenting with dysphagia: analysis of a national endoscopy database.** *Dysphagia* 2012; 27(1): 101-5.
5. Wilkins T, Gillies RA, Thomas AM, Wagner P J. **The prevalence of dysphagia in primary care patients: A HamesNet Research Network study.** *JABFM* 2007; 20(2): 144-50.
6. Khan AN, Said K, Ahmad M, Ali K, Hidayat R, Latif H. **Endoscopic findings in patients presenting with oesophageal dysphagia.** *J Ayub Med Coll Abbottabad* 2014; 26(2):216–20.
7. Aslam M, Vaezi MF. **Dysphagia in the Elderly.** *Gastroenterol Hepatol* 2013; 9(12): 784–795.
8. Schindler JS, Kelly JH. **Swallowing disoeders in the elderly.** *Laryngoscope* 2002; 112(4): 589-602.

9. Sura L, Madhavan A, Carnaby G, Crary MA. **Dysphagia in the elderly: management and nutritional considerations.** Clin Interv Aging 2012; 7: 287-98.
10. Khan MS, Iltaf, Rehman A, Hameed K, Amin S. **Frequency of esophageal carcinoma in patients presenting with dysphagia.** KJMS 2013; 6(2): 275-77.
11. Kishve SP, Kishve PS, Aarif SMM, Kalakoti P. **Clinico-pathological profile of esophageal dysphagia.** Indian Medical Gazette 2011; 379-84.
12. Sehgal V, Abayalingam M, Alexander H, Mitra A, Ahmad I, Krishnan B, et al. **PTU-183 Dysphagia with normal endoscopic appearances – Could we do better?** Gut 2014; 60: A119.
13. Gilani N, Stipho S, Shaukat MS, Akins R, Ramirez FC. **The yield and safety of string capsule endoscopy in patients with dysphagia.** Gastrointest Endosc 2007; 66(6): 1091-5.
14. Ruigomez A, Rodriguez LAG, Wallander M, Johansson S, Eklund S. **Esophageal Stricture: incidence, treatment patterns, and recurrence rate.** Am J Gastroenterol 2006; 101(12): 2685-92.
15. Schoepfer AM, Simon D, Strauman A. **Eosinophilic oesophagitis: latest intelligence.** Clin Exp Allergy 2011; 41(5): 630-9.
16. Higuchi K, Koizumi W, Tanabe S, Sasaki T, Katada C, Azuma M et al. **Current management of esophageal squamous-cell carcinoma in Japan and other countries.** Gastrointest Cancer Res 2009; 3(4): 153–161.
17. Alidina A, Siddiqui T, Burney I, Jaffari W, Hussain F, Ahmad M. **Esophageal cancer: a review.** J Pak Med Assoc 2004; 54(3)136-141.
18. Kim E, Lee H, Jung H, Lee KJ. **Achalasia in Korea: an epidemiologic study using a National Health care Database.** JKMS 2014; 29(4):576-80.
19. Khan R, Abid S, Hamid S, Abbas Z, Shah H, Jaffri W. **Outcome of endoscopic therapeutic interventions: Are they different among various non-malignant esophageal diseases.** J Ayub Med Coll 2005; 17(4):1-4.
20. Seamen WB. **Pharyngeal and upper esophageal dysphagia.** JAMA 1976; 235(24):2643-6.
21. Kidambi T, Toto E, Ho N, Taft T, Hirano I. **Temporal trends in the relative prevalence of dysphagia etiologies from 1999-2009.** World J Gastroenterol 2012; 18(32): 4335-41.
22. Balu R, Sresh S, Menon U. **Dysphagia and vocal cord palsy.** Amrita J of Medicine 2014; 10(2): 37-9.
23. Lee B, Caddy G. **A rare cause of dysphagia: Herpes simplex esophagitis.** World J Gastroenterol 2007; 13(19): 2756–57.

AUTHORSHIP AND CONTRIBUTION DECLARATION

Sr. #	Author-s Full Name	Contribution to the paper	Author=s Signature
1	Dr. Zahra Nazish	Concept and study design, Collection, interpretation and analysis of data, writing of paper, final approval	
2	Prof. Dr. M. Inayatullah	Data interpretation, critical revision of article for important intellectual content	
3	Dr. Muhammad Younus Khan	Data collection and interpretation, critical revision of article	