

ORIGINAL ARTICLE

ENDOSCOPIC SPECTRUM OF OESOPHAGEAL FINDINGS PRESENTING WITH DYSPHAGIA

Shabnam Naveed, Ayesha Nageen*, Priyanka Rani, Syed Masroor Ahmed, Zeeshan Ali

Department of Medicine, Jinnah Postgraduate Medical Centre and Jinnah Sindh Medical University, Karachi,

*United Medical and Dental College, Karachi, Pakistan

Background: The causes of dysphagia may represent chronic benign disorders to life threatening oesophageal neoplasia. The first line investigation in evaluation of dysphagia is upper gastrointestinal endoscopy. The objective of the study was to observe the oesophageal endoscopic findings in patients presenting with dysphagia and their correlation with age and gender. **Methods:** This cross-sectional study was conducted in Jinnah Postgraduate Medical Centre, Karachi, from 2017 to 2019. Adult patients who had their chief complaint as dysphagia underwent endoscopy and their findings were noted on a pre-designed proforma. The findings were analysed on SPSS-22. **Results:** Out of 242, patients, males were 102 (42%) and females were 140 (58%). Among them 19 (8%) were in the age group of 18–20 years, 103 (42.5%) between the ages of 21–40 years, 81 (33.5%) in the ages of 41–60 years and 39 (16%) in the age group of 61 years and above. Pharyngeal growth was seen in 27 (11%) patients. The commonest pathology in oesophagus was oesophageal growth (58, 24%). With respect to age group, oesophagitis was more common between the ages 18–20 years while oesophageal growth was more prevalent in all age groups above 18 years. With respect to gender, oesophageal web/stricture was twice more in females while the oesophageal growth frequency was nearly equal in both genders. **Conclusion:** There is high frequency of oesophageal growth among all age groups and is alarming. In patients with dysphagia, endoscopic evaluation for early detection is crucial.

Keywords: Dysphagia, Upper Gastrointestinal Endoscopy, Oesophageal Mass, Oesophagitis

Pak J Physiol 2021;17(3):36–9

INTRODUCTION

Dysphagia is a stressful subjective symptom in which there is a delay or difficulty in deglutition. It could be to solid, liquid or both depending upon the pathology. There are various established factors causing dysphagia. The prevalence of dysphagia is estimated to be around 6–9% in all age groups and 16–22% in patients above 50 years of age.¹ Difficulty in swallowing would lead to a poor diet and malnutrition and as a sequel would cause multiple nutritional deficiencies leading to an immunocompromised state. It impacts the quality of life of a person and adds to the morbidity count of the country. Patients reported psychological impact on their lives with panic and anxiety developing into depression.²

Oesophageal dysphagia is usually due to either structural or inflammatory pathologies such as strictures, rings, webs, malignancy or oesophagitis or motility disorders such as achalasia, ineffective oesophageal motility, oesophageal spasm or oesophago-gastric junction outflow obstruction.³

The dilemma of dysphagia is that in spite of being a critical symptom patients often present late for medical advice. The patients with dysphagia of neoplastic origin frequently present with secondary complications. Some would have the presence of comorbidity which would add to the challenge in their management.

Oesophago-gastro-duodenoscopy is the required diagnostic procedure performed in the evaluation of oesophageal dysphagia since there is a direct visualization of upper gastrointestinal tract and the ability for tissue acquisition for biopsy.⁴ By endoscopic biopsy of any growth malignancies could be ruled out.⁵ An early detection of oesophageal/gastric malignancy will definitely escalate the chance of survival by prompt management.²

In general, symptom of dysphagia can be present in various oesophageal disorders. The endoscopic findings in patients with dysphagia are well known but their frequencies are not very well reported in Pakistani patients. Moreover, there is very insufficient data that associate those endoscopic findings with age and gender. The objective of this study was to determine the pattern and frequencies of different endoscopic findings in patients who present with dysphagia. We also aimed to correlate these endoscopic findings with respect to age and gender.

METHODOLOGY

This cross-sectional observational study was conducted in Jinnah Postgraduate Medical Center, Karachi, from 2017 to 2019. The patients were recruited using consecutive non-probability sampling. Patients included were above the age of 18 years who presented with the principal complaint of dysphagia. After taking consent for being part of study, they underwent upper gastrointestinal endoscopy under standard protocol.

Patients younger than 18 years and with previous history of upper gastrointestinal (GI) endoscopy were excluded from the study. The oesophageal endoscopic findings of patients were noted on pre-designed proforma and standard management plan was carried out. Patients with normal oesophagus on endoscopy were advised any further management, and biopsies were taken where needed. Oesophageal endoscopic findings were categorised according to various abnormalities detected. The prevalence of oesophageal endoscopic findings was ascertained overall and also graded by gender and age groups (18–20, 21–40, 41–60, and ≥61 years). The findings were analysed on SPSS-22. Frequency and percentages were calculated for categorical variables like gender and common upper GI endoscopic findings. Chi-square was taken significant at $p < 0.5$ when variables were cross-tabbed including universal variables of age and gender.

RESULTS

The total patients were 242, males were 102 (42.1%) and females were 140 (58%). There were 19 (8%) patients in the age group of 18–20 years, 103 (42.5%) between the ages of 21–40 years, 81 (33.5%) in the ages of 41–60 years, and 39 (16%) in the age group of 61 years and above.

Growth or mass were present in 27 (11%) patients in the pharynx. Those patients had normal oesophagus on endoscopy.

The endoscopic findings of the oesophagus and the endoscopic impression with respect to gender in the oesophagus are presented in Table-1. The oesophageal findings with respect to age groups are tabulated in Table-2.

Table-1: Oesophageal endoscopic findings and the frequency with respect to gender [n (%)]

Category of findings	Male	Female	Total
Normal oesophagus	27 (26)	45 (74)	72 (29.75)
Oesophageal growth	28 (48)	30 (52)	58 (24.0)
Reflux oesophagitis	16 (49)	17 (51)	33 (13.6)
Oesophageal web/benign strictures	10 (33)	20 (66)	30 (12.4)
Oesophageal ulcers	7 (44)	9 (56)	16 (6.6)
Candidiasis	4 (40)	6 (60)	10 (4.1)
Oesophageal varices	3 (60)	2 (40)	5 (2.07)
Hiatus hernia	4 (100)	0	4 (1.7)
Achalasia	0	3 (100)	3 (1.2)
Stricture plus esophagitis	0	1 (100)	1 (0.4)
Web plus growth	0	1 (100)	1 (0.4)
Stricture plus varices	0	1 (100)	1 (0.4)
Ulcers plus esophagitis	0	1 (100)	1 (0.4)
Candidiasis plus stricture	0	1 (100)	1 (0.4)
Candidiasis plus esophagitis	0	1 (100)	1 (0.4)
Candidiasis plus growth	1(33)	2 (66)	3 (1.2)
Candidiasis plus ulcer	2 (100)	0	2 (0.83)
Total	102	140	242

(Percentages calculated by the frequency of that category found in that gender compared to the overall total in that category)

Table-2: Oesophageal findings with respect to age group [n (%)]

Category of finding	Age (Years)				Total
	18–20	21–40	41–60	61–80	
Normal	7 (36)	32 (31)	23 (28)	10 (25.6)	72
Oesophageal growth	1 (5)	26 (25)	21 (26)	10 (25.6)	58
Reflux oesophagitis	6 (31)	12 (11)	10 (12)	5 (12.8)	33
Oesophageal web/stricture	1 (5)	12 (11)	15 (18.5)	2 (5)	30
Oesophageal ulcers	1 (5)	6 (6)	3 (3.7)	6 (15)	16
Candidiasis	1 (5)	5 (5)	3 (3.7)	1 (2.5)	10
Oesophageal varices	0	1 (0.9)	2 (2.4)	2 (5)	5
Hiatus hernia	1 (5)	2 (1.9)	0	1 (2.5)	4
Achalasia	0	2 (1.9)	0	1 (2.5)	3
Stricture plus oesophagitis	0	1 (0.9)	0	0	1
Web plus growth	0	1 (0.9)	0	0	1
Stricture plus varices	1 (5)	0	0	0	1
Ulcers plus oesophagitis	0	0	1 (1.2)	0	1
Candidiasis plus stricture	0	0	0	1 (2.5)	1
Candidiasis plus oesophagitis	0	1 (0.9)	0	0	1
Candidiasis plus ulcers	0	0	1 (1.2)	1 (2.5)	2
Candidiasis plus growth	0	2 (1.9)	1 (1.2)	0	3
Total	19	103	80	40	242

($p=0.668$, Chi-square test was applied. Percentages shown in brackets are the frequency of that category in that age group to the total in that age group)

DISCUSSION

The results of this study provide an insight into the pathologies prevalent in the community currently. Oesophageal dysphagia is frequently encountered in clinical practice being a distressing symptom and cause should always be diagnosed. Differentiation between benign and malignant lesions is crucial.

In our study the patients that complained most of swallowing problems were in young and middle age group and females outnumbered males. A study conducted by Gupta *et al* in India also showed similar finding that female gender presented in higher number with dysphagia.² However, in terms of age Gupta’s research reported it to be in the middle stage of life.

The endoscopic diagnosis in patients with dysphagia varies in different studies. Etiological analysis of dysphagia is very important as each cause carries different outcomes. In our work the commonest endoscopic lesion was oesophageal growth followed by reflux oesophagitis and then oesophageal web/strictures. Gupta *et al*² also reported the growth as the commonest finding in their study. Krishnamurthy *et al*¹ found that oesophageal stricture was most common pathology. Khan *et al*⁶ suggested that malignant strictures were the commonest problem in dysphagic people. Zameerulla *et al*⁷ in their study found normal

oesophageal findings in higher number with malignant stricture being the next common. A Kenyan study also reported oesophageal cancer as the prevalent diagnosis in patients with dysphagia.⁸

In our statistics presence of growth was seen equally in all age groups with slight preponderance to female gender. However, Several studies reported that oesophageal growth is more common in the old or elderly group and oesophageal squamous cell carcinoma remains the most common histopathology of malignant lesions and hence it should be immediately addressed.^{6,7,9} In our study it was noticed that the presence of growth/stricture more in females compared to males which is in accordance to Khan's study.⁶ An American data also found the probability of oesophageal cancer to be more in white woman.¹⁰ Other studies found malignant strictures nearly equal in both gender.^{3,7}

Our second most common endoscopic finding was of reflux oesophagitis. We found it more common in young age and slightly more frequent in females than males. Kim *et al*¹¹ and Fakhre Yaseri H¹² also revealed similar prevalence rates in terms of gender. However, these studies found reflux oesophagitis to be increasing with age and hence to be common in the elderly. Female gender is a risk factor in gastroesophageal reflux disease. This gender difference could be due to oestrogen or more inclination or consumption of spicy and oily diet by females in our community. This role of oestrogen in reflux esophagitis is also suggested by other researches.^{11,12}

Third common finding was of webs and strictures. The common causes of benign oesophageal strictures are usually oesophageal webs, Schatzki rings, radiation injuries, caustic ingestions, and peptic stenosis.¹³ These disorders are associated with malnutrition, weight loss and increased risk of aspiration. In our study the frequency of strictures was twice common in females. We found these in higher number in patients of young and middle age groups. Our results concur other studies that suggested similar correlation of age and gender with oesophageal web and other benign strictures.^{14,15}

Our study showed that dysphagia is a grave symptom; and it should be investigated promptly. A population based survey of patients with dysphagia in the United States showed that only half of the population actually seeks medical advice for their swallowing difficulties.¹⁶ Most patients just used compensatory ways to handle their issue like by drinking fluids to swallow the food and taking longer time to eat. Increasing awareness in the community for an early medical check-up for dysphagia would be beneficial for such people.

CONCLUSION

Dysphagia is a common clinical problem, and can be associated with serious underlying disorders. The high frequency of oesophageal growth among all age groups is alarming; most of them turned out to be malignant and often already metastasized by the time they are discovered. Clinicians should consider endoscopic evaluation for early diagnosis in patients with dysphagia.

REFERENCES

1. 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.
2. Gupta A, Dall TS, Bansal D. Endoscopic evaluation of dysphagia. *Int Surg J* 2019;6(12):4323–6.
3. Liu LWC, Andrews CN, Armstrong D, Diamant N, Jaffer N, Lazarescu A, *et al*. Clinical practice guidelines for the assessment of uninvestigated esophageal dysphagia. *J Can Assoc Gastroenterol* 2018;1(1):5–19.
4. Makino H, Yoshida H, Uchida E. Endoscopy for diseases with esophageal dysphagia. In: Speyer R, Bogaardt H, editors. *Seminars in dysphagia* [Internet]. InTech; 2015. Available from: <http://www.intechopen.com/books/seminars-in-dysphagia/endoscopy-for-diseases-with-esophageal-dysphagia>. doi: 10.5772/60909. [cited 2 Sep 2015].
5. ASGE Standards of Practice Committee, 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. *Gastrointest Endosc* 2014;79(2):191–201.
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. Zameerulla T, Vivekanand D, Hanumathappa BN. Upper gastrointestinal endoscopy in patients with dysphagia: our experience. *Int Surg J* 2019;6(11):3960–2.
8. Ayuo PO, Some FF, Kiplagat J. Upper gastrointestinal endoscopy findings in patients referred with upper gastrointestinal symptoms in Eldoret, Kenya: A retrospective review. *East Afr Med J* 2014;91(8):267–73.
9. Mitra T, Dixit VK, Shukla SK, Yadav DP, Thakur P, Thakur RK. Clinical profile of patients presenting with dysphagia - an experience from a tertiary care center in North India. *JGH Open* 2019;4(3):472–476.
10. Raman R, Deorah S, McDowell BD, Abu Hejleh T, Lynch CF, Gupta A. Changing incidence of esophageal cancer among white women: analysis of SEER data (1992-2010). *Contemp Oncol (Pozn)* 2015;19(4):338–40.
11. Kim YS, Kim N, Kim GH. Sex and Gender Differences in Gastroesophageal Reflux Disease. *J Neurogastroenterol Motil* 2016;22(4):575–88.
12. Fakhre Yaseri H. Gender is a risk factor in patients with gastroesophageal reflux disease. *Med J Islam Repub Iran* 2017;31:58.
13. Robles-Medrandra C, Oleas R, Alvarado-Escobar H, Puga-Tejada M, Baquerizo-Burgos J, Pitanga-Lukashok H. Treating simple benign esophageal strictures with savary gilliard dilators: is the rule of three still necessary? *Arq Gastroenterol* 2019;56(1):95–8. <https://doi.org/10.1590/s0004-2803.201900000-21>.

-
14. Yahya M, Faruqi SJ, Memon AR. Endoscopic findings in patients presenting with dysphagia: An observational study. *Int J Surg Med* 2020;6(3):6–10.
15. Gouda MAS, Allakani AI, Bedewy MM. Endoscopic findings in Egyptian patients with oesophageal dysphagia at different age groups. *Am J Intern Med* 2015;3(6):224–30.
16. Adkins C, Takakura W, Spiegel BMR, Lu M, Vera-Llonch M, Williams J, *et al.* Prevalence and characteristics of dysphagia based on a population-based survey. *Clin Gastroenterol Hepatol* 2020;18(9):1970–9.
-

Address for Correspondence:

Dr. Shabnam Naveed, Associate Professor, Department of Medicine, House# 54/1, 10th Commercial Street, DHA Phase-4, Karachi, Pakistan. **Cell:** +92-300-2298572
Email: shabnamkorejo@gmail.com

Received: 20 Jan 2021

Reviewed: 11 Sep 2021

Accepted: 17 Sep 2021

Contribution of Authors:

SN: Contributed to concept, and design, drafted manuscript

AN: Analysis, interpretation, drafted the manuscript

PR: Analysis, agrees to ensure integrity of work

SMA: Critically revised manuscript, gave final approval

ZA: Critically revised the manuscript and analysis

Funding: No: funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the IRB