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Endoscopic evaluation of patients with dysphagia: A Hospital Based Study from North Eastern India

KG Lynrah[1], I.Tiewsoh[1], N. Momin[1], A. Das[1], M. Gumbo[1], A. Hinge[1], MD Hek[1], R. Barman[1], K.Chakravorty[1], MS Rupsi[1], S.Tariang[1], T. Ete[1], SB. Warjri[1], VN Nongpiur[1], E. Synrem[1], Tazo Beyong[1], Hasil MA Edakkunnummel[1], S. Hajong[1], B. Wankhar[2] and M. Lyngdoh[*1]

[1]Department of Medicine, [2]Department of Radiodiagnosis,
North Eastern Indira Gandhi Regional Institute of Health and Medical Sciences, Shillong, India

Abstract

Introduction: Dysphagia is an alarm symptom which requires thorough evaluation to determine the underlying cause. Diseases which causes dysphagia are numerous and varies from benign to malignant. Endoscopy is an important diagnostic tool for the evaluation of dysphagia and it is the preferred diagnostic modality. Various malignant diseases are commonly seen above 40 years and endoscopy should not be delayed in such patients especially those with red flags signs like male patients above 40 years, with associated odynophagia, weight loss, hematemesis, hemoptysis and cervical lymphadenopathy.
Materials and Methods: This is a hospital based retrospective observational study carried out in a tertiary hospital over a period of ten years from January 2010 to December 2019. All patients with dysphagia referred for upper GI endoscopy were included in the study. Out of 25,263 Upper GI endoscopies carried out in the above period, 2613 were carried out for evaluation of dysphagia.
Results: Out of 25,263 patients, 2613 were referred for Upper GI Endoscopy for evaluation of dysphagia. Abnormal findings were detected in 2388(91.3%) patients. The findings which could be attributed to possible causes of dysphagia were seen in 1740 patients out of 2,613 UGIEs carried out for dysphagia. The distribution of sites of malignancy was esophageal (56.7%), larynx (14.7%), pyriform fossa (13.1%), pharynx (5.8%), base of tongue (3.9%), stomach (1.2%), GE junction (0.8%), tonsils (0.3%), cricopharynx (0.2%), peri-ampullary region (0.07%), palate (0.07%) and floor of mouth (0.07%), 36 patients had dual-site of involvement; of these, 11 (0.7%) patients had carcinoma pyriform fossa and esophagus, 8 (0.5%) patients had carcinoma larynx and esophagus, 6(0.4%) patients had carcinoma pharynx and esophagus, 6 (0.4%) patients had carcinoma of the base of tongue and esophagus, 3 (0.2%) patients had carcinoma of the pharynx and larynx and 2 (0.1%) patients had carcinoma of the larynx and esophagus.
Conclusion: Endoscopy is an important diagnostic tool available for the diagnosis of patients suffering from dysphagia. Diseases involving the oral cavity, pharyngeal, upper airways and esophageal can be diagnosed with greater precision as direct visualization of the site of the lesion as well as the ability for collection of biopsy specimens could be made. In addition to diagnosis, various endoscopic therapeutic procedures can be carried out. Endoscopy should not be delayed in patients with dysphagia, in male patients aged more than 40 years, with associated odynophagia, weight loss, hematemesis, haemoptysis and cervical lymphadenopathy.

Keywords: Benign; Malignancy; Pharynx, Upper airway; Esophagus; Gastric.

***Correspondence Info:**
Dr. Monaliza Lyngdoh
Assistant Professor,
Department of Medicine,
North Eastern Indira Gandhi Regional Institute of Health and Medical Sciences, Shillong, India

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1. Introduction

The term dysphagia is given to difficulty in swallowing; it is an alarming symptom that requires a thorough evaluation to determine the underlying cause. The etiologies can be oropharyngeal, esophageal and neurological disorders and also varies from benign to malignant causes. In neurological disorders, it can be due to a defective regulatory mechanism. The esophageal causes can be due to motility or structural abnormalities which again can be divided into luminal, intramural and external compression.

Prevalence of dysphagia is more common among older individuals. [1-6] Dysphagia may be as high as 22% in adults over 50 years of age [7,8], and the prevalence may be even higher in those residing in nursing homes where may be up to 40% to 60% of residents may be experiencing feeding difficulties.[9,10] However, dysphagia in older adults should not be attributed to normal aging alone as the mild esophageal motility abnormalities seen in such patients are rarely symptomatic.

The estimated annual incidence of esophageal food impaction is 25 per 100,000 persons per year and with a higher incidence in males compared with females (1.5:1). [11,12] The incidence increases with age, especially after the seventh decade.

The first step in evaluating such patients is to determine whether the symptoms are suggestive of oropharyngeal or esophageal dysphagia. The diagnostic tests to determine the aetiology of dysphagia are Barium esophagogram, Upper Gastro-intestinal Endoscopy and Esophageal manometry. Esophageal manometry is usually performed in patients with dysphagia in whom upper endoscopy is unrevealing and/or an esophageal motility disorder is suspected.

Endoscopy is an important diagnostic tool for the diagnosis of patients suffering from dysphagia and is the preferred diagnostic modality. The lesions can be diagnosed with greater precision through direct visualization of the lesion. Furthermore, endoscopy allows for the collection of biopsy specimens when indicated. In addition to diagnosis, various therapeutic modalities are available endoscopically, like foreign body removal, esophageal dilatation etc.

2. Material and method

This is a hospital based retrospective observational study carried out in a tertiary teaching hospital in the north eastern part of India over a period of ten years from January 2010 to December 2019. All patients with dysphagia referred for upper GI endoscopy were included in the study.

3. Results

All together 25,263 Upper GI endoscopies was carried out over a period of 10 years, from January 2010 to December 2019. The number of male patients was 17556 while there were 7707 female patients, which constituted about 69.4% and 30.6 % respectively and a male to female ratio of 2.2:1. The patients' age ranged between 14 and 91 years, with a mean age of 51.71 ± 1.23. Out of 25,263 patients, 2613 were referred for Upper GI Endoscopy for evaluation of dysphagia. Abnormal findings were detected in 2388 (91.3%) patients (Table 1). However, all abnormal findings did not represent the usual causes of dysphagia. The findings which could be attributed to possible causes of dysphagia were seen in 1740 patients out of 2,613 UGIEs carried out for dysphagia (Table 2).

There were 2327(89.0%) male and 286 (10.9%) female patients with a male to female ratio of 8.1:1. The mean age of the patients was 53.34 ±0.90 years (males 51.65 years and for females 54.39 years). The youngest patient was 20 years of age and the oldest was 91 years old. Out of 2,613 patients with dysphagia, 1425 (54.5%) patients had malignancy.

The majority of these patients were males with 1139 cases (79.9%) and females 286 cases (20.0%) with a male to female ratio of 3.9:1. Malignancy was more common in the age group between 41 to 50 years (Table 3). The distribution of sites of malignancy in our study were esophageal (56.7%), larynx (14.7%), pyriform fossa (13.1%), pharynx (5.8%), base of tongue (3.9%), stomach (1.2%), GE junction (0.8%), tonsils(0.3%), cricopharynx (0.2%), peri-ampullary region (0.07%), palate (0.07%) and floor of mouth (0.07%). Out of a total of 1425 patients with malignancy, 36 patients had dual site of involvement; of these, 11 (0.7%) patients had carcinoma pyriform fossa and esophagus, 8 (0.5%) patients had carcinoma larynx and esophagus, 6(0.4%) patients had carcinoma pharynx and esophagus,6 (0.4%) patients had carcinoma of the base of tongue and esophagus, 3 (0.2%) patients had carcinoma of the pharynx and larynx and 2 (0.1%) patients had carcinoma of the larynx and esophagus (Table 4)

Table 1: Endoscopic findings in patients with dysphagia

Endoscopic diagnosis	Number of patients (n= 2613)	Percentage
Normal findings	225	8.6%
Esophagitis	152	5.8%
Esophageal candidiasis	134	5.1%
Esophageal stricture	18	0.6%
Foreign body esophagus	14	0.5%
Achalasia cardia	5	0.1%
Externalcompression esophagus	11	0.4%
Gastitis	411	15.7%
Esophageal polyp	5	0.1%
Peptic ulcers	213	0.80%
Malignancy	1425	54.5%

Table 2: Findings attributed to dysphagia

Diagnosis	Number of patients (n=1740)	Percentage
Esophagitis	152	8.7%
Esophageal candidiasis	134	7.7%
Esophageal stricture	18	1.0%
Foreign body esophagus	14	0.8%
Achalasia cardia	5	0.2%
External compression esophagus	11	0.6%
Carcinoma floor of mouth	1	0.05%
Carcinoma palate	1	0.05%
Carcinoma tonsils	5	0.2%
Carcinoma base of tongue	56	3.2%
Carcinoma pharynx	84	4.8%
Carcinoma cricopharynx	4	0.2%
Carcinoma pyriform fossa	188	10.8%
Carcinoma larynx	210	12.0%
Carcinoma esophagus	809	46.4%
Carcinoma GE junction	12	0.6%
Carcinoma pyriform fossa and esophagus	11	0.6%
Carcinoma larynx and esophagus	8	0.4%
Carcinoma pharynx and esophagus	6	0.3%
Carcinoma base of tongue and esophagus	6	0.3%
Carcinoma pharynx and larynx	3	0.1%
Carcinoma larynx and esophagus	2	0.1%

Table 3: Age-wise distribution of malignancy

Age (years)	Number of patients (n=1425)	Percentage
≤ 30 yrs	22	1.5%
31-40	125	8.7%
41-50 yrs	426	29.8%
51-60 yrs	387	27.1%
61-70 yrs	382	26.8%
71-80 yrs	67	4.7%
>80 yrs	16	1.1%

Table 3: Sites of malignancy

Diagnosis	Number of patients (n=1425)	Percentage
Carcinoma floor of mouth	1	0.07%
Carcinoma palate	1	0.07%
Carcinoma tonsils	5	0.3%
Carcinoma base of tongue	56	3.9%
Carcinoma pharynx	84	5.8%
Carcinoma cricopharynx	4	0.2%
Carcinoma pyriform fossa	188	13.1%
Carcinoma larynx	210	14.7%
Carcinoma esophagus	809	56.7%
Carcinoma GE junction	12	0.8%
Carcinoma stomach	18	1.2%
Periampullary mass	1	0.07%
Carcinoma pyriform fossa and esophagus	11	0.7%
Carcinoma larynx and esophagus	8	0.5%
Carcinoma pharynx and esophagus	6	0.4%
Carcinoma base of tongue and esophagus	6	0.4%
Carcinoma pharynx and larynx	3	0.2%
Carcinoma larynx and esophagus	2	0.1%

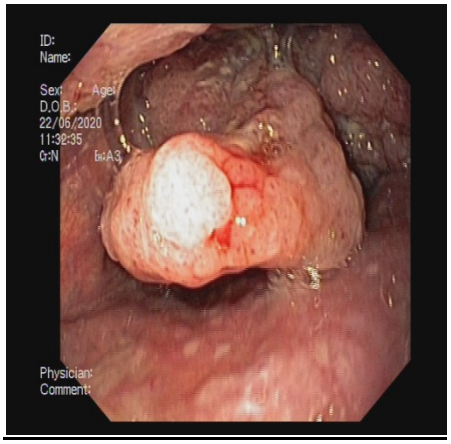

Figure 1: Ulcerative growth in the epiglottis extending to the base of tongue

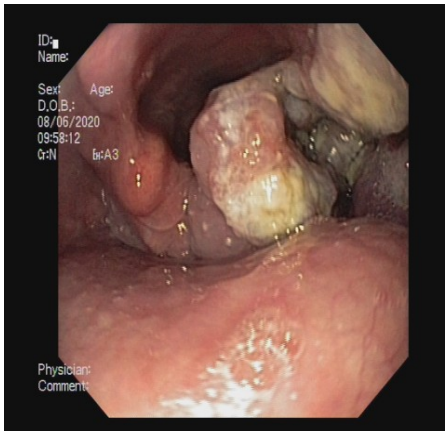

Figure 2: Ulcero-proliferative growth in the right pyriform fossa

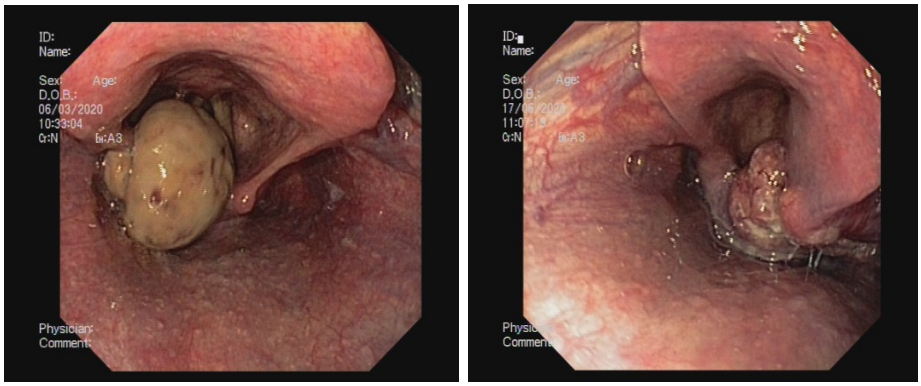

Figure 3: Proliferative growth in the supraglottic region

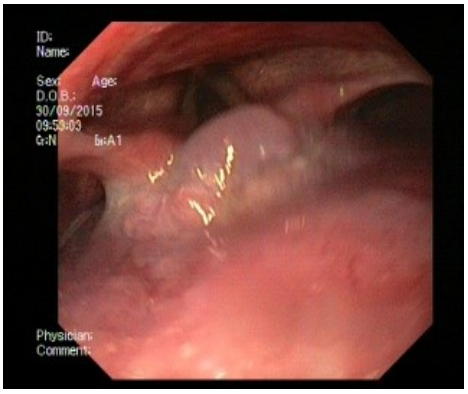

Figure 4: Ulcerative growth in the Laryngo-pharynx

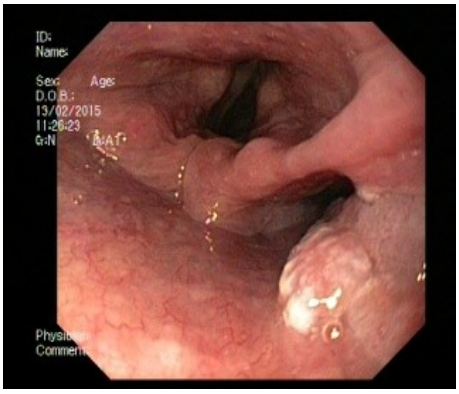

Figure 5: Small polypoidal mass in the right Lateral pharyngeal wall

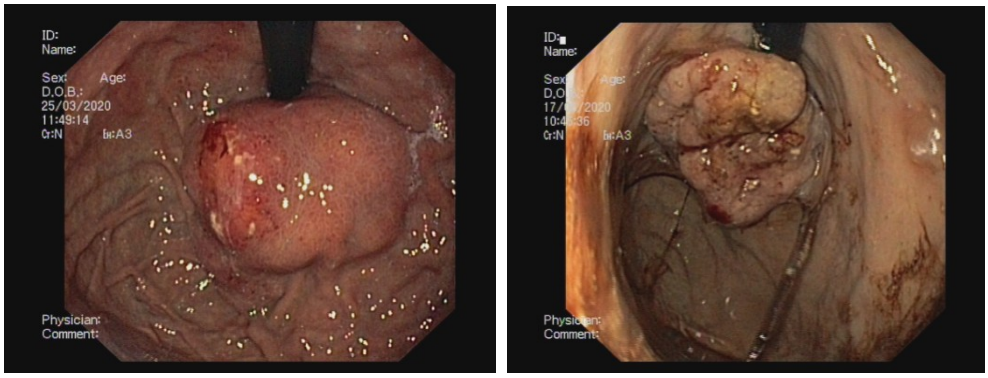

Figure 6: Ulcero-proliferative growth in the GE junction

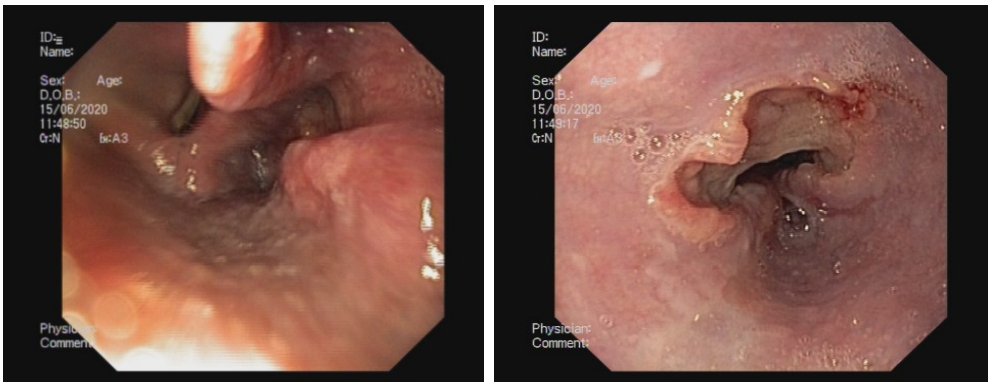

Figure 7: Ulcerative growth in the right pharyngeal wall and esophagus in the same patient

4. Discussion

This was a large series of patients who were evaluated for dysphagia. Dysphagia is an alarm symptom that requires a thorough evaluation to determine the underlying cause, exclude malignancy, and perform therapy (e.g., esophageal dilation) if needed. [13,14] The success of treatment in such patients depends on the aetiology and the stage of the disease. The priority in such patients is that the patients be evaluated thoroughly and advised for diagnostic tests such as Barium esophagogram, Laryngoscopy, or Upper GI endoscopy depending on the clinical findings or availability. The uncertainty regarding which patients should undergo endoscopy is not clear in developing countries like ours. Performing endoscopy for patients with dysphagia is advisable but may not be feasible due to the non-availability of such a procedure or affordability. However, many symptoms/signs like dysphagia in elderly group, acute onset dysphagia, associated weight loss/anaemia, hematemesis, haemoptysis and voice change have been suggested as indicators of high risk for a serious disease, [15] and every effort for an early Endoscopy should be undertaken in such cases.

In the present study, 25,263 Upper GI endoscopies was carried out over a period of ten years, out of which 2613 Upper G.I endoscopies were carried out for complaint of dysphagia. Most of the patients had malignant lesions 1425 (54.5%). In this study, the number of patients with dysphagia was much higher compared to another series and

majority of the patients were male similar to other reported series of patients with dysphagia. [16]

In the present study, abnormal findings were detected in 2388 (91.3%) patients out of 2623 patients referred for Upper GI endoscopies for dysphagia. However, all abnormal findings did not represent the usual causes of dysphagia, the findings which could be attributed to possible causes of dysphagia was seen in 1740 (66.5%) patients out of 2,613 Upper G.I endoscopies carried out for dysphagia. This yield (66.5%) is comparatively higher compared to another study who reported diagnostic yield of 54 percent. [16]

In the present study, malignancies were more in the age group of 41-50 years. There were 426 (29.8%) cases in patients of 41-50 years, 387 (27.1%) cases in the age group of 51-60 years and 382 (26.8%) cases in the age group of 61-70 years. The mean age for male patients was 51.65 years and for females, it was 54.39 years. This study highlights that dysphagia especially in the age group above 40 years is an important symptom and therefore one should not delay diagnostic testing such as endoscopy in such cases.

5. Conclusion

Endoscopy is an important diagnostic tool available for the diagnosis of patients suffering from dysphagia. Though Upper GI Endoscopy is meant mostly for the diagnosis of gastrointestinal diseases however, as seen in this study, diseases involving the oral cavity, pharyngeal and upper airways can also be diagnosed with accuracy. Endoscopy allows for greater precision as direct visualization of the site of the lesion along with the ability for collection of biopsy specimens could be made. In addition to diagnosis, various endoscopic therapeutic modalities are available which further adds to its growing popularity and importance and a must have procedure in any medical set up. Dysphagia is a common symptom and endoscopy should not be delayed in patients with red flag signs especially in vulnerable groups like male patients aged more than 40 years old with associated odynophagia, weight loss, hematemesis, haemoptysis and cervical lymphadenopathy.

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