

# Clinical and Endoscopic Study of Dysphagia: A Prospective Study at a Tertiary Care Centre

R. Selva Sekaran<sup>1</sup>, Ramireddy Krishna Chaitanya Reddy<sup>2</sup>

<sup>1</sup>Associate Professor, Department of Medical Gastroenterology, Thoothukudi Medical College, Thoothukudi, Tamil Nadu, India, <sup>2</sup>Postgraduate, Department of Medical Gastroenterology, Thoothukudi Medical College, Thoothukudi, Tamil Nadu, India

## Abstract

**Introduction:** Swallowing is a complex motor reflex requiring coordination among the neurologic system, the oropharynx, and the esophagus. Several disorders, both benign and malignant, interfere with the swallowing process and cause dysphagia.

**Aim:** The aim of the study was to study the clinical and endoscopic evaluation of various pathological conditions leading to dysphagia.

**Materials and Methods:** Patients presenting with a history of dysphagia to the Outpatient Department of Medical Gastroenterology, Thoothukudi Medical College, Thoothukudi, were included in the study. The study was conducted from August 2019 to July 2020, during which period 210 cases of dysphagia were evaluated.

**Results:** A total of 210 patients were subjected to the upper GI endoscopy. There were 130 males and 80 females. The final diagnosis was carcinoma esophagus in 78, Carcinoma gastroesophageal junction in 9, Carcinoma pharynx in 7, Benign stricture in 33, Cricopharyngeal web in 20, Candida esophagitis in 14, and Achalasia cardia in 12 and 32 with normal findings.

**Conclusion:** Upper gastrointestinal (GI) endoscopy is a safe and effective way to evaluate dysphagia and has diagnostic and therapeutic value. The evaluation of dysphagia remains incomplete without upper GI endoscopy, which should be considered earliest, especially in the elderly having dysphagia.

**Key words:** Dysphagia, Swallowing, Upper gastrointestinal endoscopy

## INTRODUCTION

Swallowing is a complex motor reflex requiring coordination among the neurologic system, the oropharynx, and the esophagus. Several disorders, both benign and malignant, interfere with the swallowing process, and cause dysphagia.

Dysphagia, or impaired swallowing, becomes more common as the population ages.<sup>[1]</sup> Evidence suggests that about 10% of the general population aged 50 years or older have swallowing problems.<sup>[1]</sup> Still, the prevalence may be as high as 40% among patients residing in homes for the aged<sup>[2]</sup> and 64% of older people in short-term

care.<sup>[3]</sup> Persons with dysphagia have an increased risk of developing other medical conditions and becoming socially isolated,<sup>[4]</sup> which impacts the quality of life and contributes to health-care costs.<sup>[5]</sup> Therefore, early identification and treatment of persons at risk for complications due to dysphagia are of paramount importance.

The diagnosis and subsequent treatment of dysphagia is important because of the associated morbidity and mortality. Untreated dysphagia can lead to dehydration, malnutrition, respiratory infections, and death. The elderly with dysphagia symptoms is at increased risk of dysphagia complications, including aspiration pneumonia. Several studies have identified the elderly as being at risk for the development of dysphagia.<sup>[6,7]</sup>

Classifying dysphagia as oropharyngeal or esophageal and obstructive or neuromuscular symptom complexes leads to a successful diagnosis in 80–85% of patients. Based on the patient history and physical examination, barium esophagogram and gastroesophageal endoscopy

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**Corresponding Author:** Dr. R. Selva Sekaran, Department of medical gastroenterology, Thoothukudi Medical College, Thoothukudi, Tamil Nadu, India.

can confirm the diagnosis. Special studies and consultation with subspecialists can confirm difficult diagnosis and help guide treatment strategies.

Fiber optic endoscopic evaluation of swallowing is well tolerated. It is easy to perform. It is, nevertheless, an endoscopic examination that can result in easily controlled complications such as discomfort, gagging, vomiting, vasovagal syncope, anterior or posterior epistaxis or even dramatic, though rare, and complications such as laryngospasm.<sup>[8]</sup>

**Aim**

The aim of the study was to study the clinical and endoscopic evaluation of various pathological conditions leading to dysphagia.

**MATERIALS AND METHODS**

Patients presenting with a history of dysphagia to the Outpatient Department of medical gastroenterology, Thoothukudi Medical College, Thoothukudi, were included in the study. The study was conducted from August 2019 to July 2020, during which period 210 cases of dysphagia were evaluated. Informed consent was obtained from all the patients. Those patients who were not willing for informed consent and upper gastrointestinal (GI) scopy were excluded from this study. Patients were evaluated for dysphagia with history, clinical examination, and upper GI endoscopy. Barium swallow study and endoscopic biopsy with the histopathological study were done when required. Esophageal manometry was performed in suspected cases of motility disorders of the esophagus. All the data were analyzed using simple statistical mean, average, percentage, and standard deviation.

**RESULTS**

Out of 210 consecutive patients, 120 (57.14%) were male, and 90 (42.85%) were female with a male:female ratio of 1.3:1. The mean age of patients was 56.4 ± 14.4 years. The detailed demographic characteristics of the patients are given in Table 1. The highest number of cases (44.28%) was seen in the 61–80 years age group, followed by 41–60 age groups (28.59%). Clinically significant weight loss was seen in 67.61% of patients.

Among the total patients evaluated, 45% (94 patients) had a malignant etiology, and 55% (116 patients) had a benign etiology for dysphagia. Carcinoma esophagus was the most common cause of dysphagia in our study, accounting for 37.14% (78), followed by functional dysphagia, corrosive stricture, and the least common cause is an esophageal ring and pill esophagitis [Table 2].

**Table 1: Clinical characteristics**

Clinical characteristics	Frequency (%)
Age in years	
0–20	6.19
21–40	19.52
41–60	28.59
61–80	44.28
81–100	1.43
Gender	
Male	57.14
Female	42.85
Clinical characteristics	
Mean duration of symptoms in months	3
Dysphagia to solids	43.8
Dysphagia to both solids and liquids	56.2
Nasal regurgitation	5.71
Weight loss	67.61
H/O corrosive ingestion	13.33

Based on site majority had carcinoma in the lower one-third of the esophagus (18.09), followed by middle (11.42) and upper (7.61). Nine patients had OG junction growth, and seven patients had in the pharynx [Table 3].

Based on the etiology of stricture, 28 patients had corrosive stricture, three patients had peptic stricture, and two patients had pill esophagitis [Table 4].

**DISCUSSION**

Good clinical and endoscopy information is a fundamental part of “adequacy,” which strongly affects how a biopsy should be read. However, the precise diagnosis becomes more certain on histopathological examination. The most common indications for gastric biopsy are detecting various gastritis and evidence of *Helicobacter pylori* status, gastric ulcers, and different tumors.<sup>[9]</sup>

Malignant tumors of the upper GI tract (esophagus and stomach) account for 13,300 deaths and approximately 16,600 new cases each year in the UK.<sup>[10]</sup> These tumors usually have a long natural history and may present at a fairly advanced stage. Nevertheless, patients with these tumors exhibit important alarm symptoms, for example, dysphagia, dyspepsia, chronic GI bleeding, progressive unintentional weight loss, progressive difficulty in swallowing, persistent vomiting, iron deficiency anemia or epigastric mass that warrant further clinical investigations.

From our data, it was observed that the carcinoma cases were more in males than females. Many earlier studies have stated that esophageal cancer is 4 times more common and slightly more lethal in men than in women.<sup>[11]</sup> Puhakka and Aitsalo, Malik *et al.*, reported a high ratio of males for this cancer as compared to females.<sup>[12,13]</sup>

**Table 2: Etiology of dysphagia**

Etiology of dysphagia	No. of pts (%)
Ca esophagus	78 (37.14)
Functional dysphagia	32 (15.23)
Corrosive stricture	28 (13.33)
Cricopharyngeal web	20 (9.52)
Candidal esophagitis	14 (6.66)
Achalasia cardia	12 (5.71)
OG junction growth	9 (4.28)
Ca pharynx	7 (3.33)
Peptic stricture	3 (1.42)
FB esophagus	3 (1.42)
Esophageal ring	2 (0.95)
Pill esophagitis	2 (0.95)

**Table 3: Profile of malignant lesions**

Site of cancer	No. of pts (%)
Ca esophagus	78 (37.14)
Upper 1/3	16 (7.61)
Middle 1/3	24 (11.42)
Lower 1/3	38 (18.09)
OG junction growth	9 (4.28)
Ca pharynx	7 (3.33)
Oropharynx	2 (2.38)
Hypopharynx	5 (2.38)

**Table 4: Profile of benign stricture**

Etiology of stricture	No. of pts (%)
Corrosive stricture	28 (13.33)
Acid	20 (9.52)
Alkali	8 (3.80)
Peptic stricture	3 (1.42)
Pill esophagitis	2 (0.95)

In our study group, the patients in the age group 61–80 showed the maximum carcinoma incidence.

Shil *et al.*<sup>[14]</sup> observed that esophageal carcinoma was seen in the sixth (51–60 years) decade of life followed by the seventh and fifth decades. Population-based data reveal that the esophageal cancer incidence peaks in the sixth decade as in most parts of the world.

In our study group, the majority had squamous cell carcinoma (SCC) of the esophagus. SCC is the predominant histologic type of esophageal cancer worldwide.<sup>[15]</sup> Cherian *et al.*, 2007, also stated in their study that SCC was the most common malignancy, seen in 912 (92%) patients.<sup>[16]</sup>

In a study by Nagai *et al.*, 2014, the accuracy of endoscopic diagnosis and biopsy diagnosis was 91.0% (101/111) and 85.6% (95/111) in case of esophageal carcinoma.<sup>[17]</sup>

Patients with malignant tumors of the upper GI tract tumors exhibit important alarm symptoms such as dysphagia that warrant clinical investigations. In our study

subjects, 43.8% were having difficulty swallowing solid foods, while 56.2% were having solid and liquid swallowing difficulty. No cases with dysphagia to liquids alone were noted in our study. Dysphagia that occurs equally with solids and liquids often involves an esophageal motility problem. In the study by Wilkins *et al.*, of the patients who reported dysphagia, 49.0% reported problems swallowing with solids only, 6.3% with liquids only, and 44.7% with both solids and liquids.<sup>[18]</sup>

## CONCLUSION

Dysphagia may be associated with serious underlying disorders such as esophageal or gastric carcinoma. The evaluation of dysphagia remains incomplete without upper GI endoscopy, which should be considered earliest, especially in the elderly having dysphagia of medium to long-term duration to diagnose the treatable conditions such as reflux esophagitis or esophageal carcinoma at an early stage. Upper GI endoscopy is a safe and effective way to evaluate dysphagia and has diagnostic and therapeutic value.

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