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ORIGINAL ARTICLE

Etiological Pattern & Clinical Presentation of Dysphagia

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ABSTRACT

Background & objective: : Dysphagia can cause significant morbidity and mortality, especially in older and paediatric populations. The study was undertaken to determine the demographic and clinico-pathological profile of the patients diagnosed with oesophageal dysphagia in a tertiary care hospital of Bangladesh.

Methods: This cross-sectional study was conducted at the Department of Medicine & Gastroenterology in Sir Salimullah Medical College & Mitford Hospital over a period of 6 months, from March to August 2015. A total of 100 adult (aged ≥ 18 years) patients (respondents) of dysphagia of both sexes were included in the study. However, patients who dropped out before investigations being completed, or unconscious patients (as endoscopy cannot be done in unconscious patients) were excluded from the study.

Result: The age distribution shows that patients were predominantly older (60%), male and rural resident. In terms of occupation, retired persons comprised the main bulk (38%). About half (49%) of the patients were middle-class and smoker. Presence of both solid and liquid food dysphagia was more or less common (44%), followed by solid food dysphagia alone (36%) and liquid food dysphagia alone (20%). A substantial proportion (78%) of patients presented with heart-burn as well. Probing the clue to dysphagia, some 7% of the patients gave history of ingesting chemical substances (either accidentally or as an attempt to suicide), 15% had history of taking steroid and 12% taking NSAIDs. History of radiation injury and history of ingesting foreign substances were rare. Over 60% of the respondents had co-morbid conditions like diabetes mellitus (28%), hypertension (23%), candidiasis (6%), lymphoma (3%). Clinical examination revealed 30% of the respondents nutritionally compromised (20% underweight and 10% overweight or obese). Nearly two-thirds (63%) were anaemiac with glossitis and koilonychia being present in 47 and 17% of the patients respectively. About one-third (32%) exhibited cervical lymphadenopathy. Of the 100 respondents, only 4 respondents were found with cardiomegaly, 4 with COPD, 2 with mediastinal widening. Endoscopy of upper GI tract showed 29% with ulceroproliferative lesion, 22% with multiple white patches in the whole length of oesophagus, 18% with stricture & narrowing of the oesophagus, 13% with malignant stricture & narrowing, 10% with proliferative lesion at mid oesophagus with narrowing of lumen and 8% malignant-looking ulcer with elevated margin in the lower oesophagus. Ba-swallow X-ray of oesophagus revealed 47 with filling defect in the lower oesophagus, 5 narrowing in the middle part of oesophagus and only 4 dilatations in the mid oesophagus. Twenty respondents had positive findings on USG of whole abdomen; of them, 10 had multiple solid tumors in liver. Others had hepatoma, mass in the epigastrium, cystitis, intraabdominal lymphadenopathy and splenomegaly. Based on symptoms, signs and laboratory findings, 42% were diagnosed as oesophagial carcinoma, 16% as drug-induced oesophageal ulcer and 11% as diabetes mellitus with oesophageal candidiasis.

Conclusion: The most common cause of oesphageal dysphagia is carcinoma of oesophagus followed by drug-induced oesophageal ulcer and diabetes mellitus with oesophageal candidiasis. To reduce morbidity and mortality of various etiologies leading to dysphagia, prompt and early diagnosis is essential.

Key words: Etiological pattern, clinical presentation, dysphagia etc.

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INTRODUCTION:

Dysphagia is one of the common and serious symptoms encountered in our clinical practice. It is an impairment of swallowing involving any structure of the upper gastrointestinal tract from the lips to the lower oesophageal sphincter.[1] It can cause significant mortality & morbidity, especially in the elderly & the paediatric population.[2] Query regarding onset, duration, progression and associated symptoms, such as weight loss or bleeding can help in determining the causes of the condition.

Careful history about the type of food that causes symptoms is extremely important as patients may present with solid and/or liquid food dysphagia.[3,4] Isolated solid food dysphagia suggests a mechanical cause for symptoms, whereas both solid and liquid food dysphagia points to a neuromuscular etiology. Duration and temporal progression of symptoms may suggest a mechanical cause, such as Schatzki's ring (solid dysphagia) or a neuromuscular disorder, such as oesophageal spasm (solid and liquid dysphagia). While a short duration and rapidly progressive dysphagia suggests malignancy, solid food dysphagia progressing to liquid dysphagia suggest a mechanical problem-benign (peptic stricture) or malignant (adenocarcinoma). Other symptoms such as weight loss, regurgitation of food particles, heartburn, pain during swallowing, or chest pain, as well as medications may give important clues to the etiology of dysphagia. Heartburn symptoms in patients of dysphagia may suggest complications from acid reflux induced peptic stricture or adenocarcinoma (solid only or solid progressing to liquid) or scleroderma oesophagus (both solid and liquid dysphagia). The caveat is that 25-30% of patients presenting with dysphagia due to peptic stricture or adenocarcinoma do not have heartburn at the time of diagnosis.[5,6]

Investigation of patients with dysphagia should be based on history. If the history is suggestive of a mechanical disorder, upper GIT Endoscopy or Barium radiography should be requested. However, if history is suggestive of a motility disorder, then barium radiography is the test of choice. Barium swallow or Endoscopy has been advocated as the initial examination for dysphagia, for its cost effectiveness, non-invasiveness and easy availability.[7,8] Upper endoscopy is recommended to asses mucosal injury. It provides opportunity for biopsy to rule out microscopic diseases in a normal appearing oesophagus and to perform therapeutic intervention, such as dilations and interventions like biopsy and attachment of a wireless pH testing probe.[2] Barium radiography with barium impregnated marshmallow or barium tablet challenge may identify motility disorders, intraoesophageal structural abnormalities, site and length of stricture.[9] High resolution oesophagealmanometry is the "gold standard" for evaluating suspected motility disorder and should be requested if upper endoscopy and radiological studies are negative. The previous study about dysphagia in the context of Bangladeshi population is not available. Therefore, a study on etiological pattern of dysphagia will be of immense clinician importance to know their clinical profile and how to diagnose them early and provide appropriate treatment.

METHODS:

This cross-sectional study was conducted in the Department of Medicine & Gastroenterology, Sir Salimullah Medical College & Mitford Hospital (SSMC & MH), Dhaka over a period of 6 months from March to August 2015. All adult (age >18 years) patients, irrespective of sexes, presenting with dysphagia (either as inpatient or out-patient) were the study population. Of them who gave consent to participate in the study were included as sample. Patients who dropped out before investigations being completed, or unconscious patients (as endoscopy cannot be done in unconscious patients) were excluded from the study. A total 100 cases of dysphagia were included in the study.

RESULTS:

The age distribution shows that over one-third (34%) of the patients was elderly (65-85 years old), 26% between 55-65 years, 19% between 45-55 years and the rest (21%) between 25-45 years old. The patients were predominantly male (male to female ratio: 3:2) and rural resident. In terms of occupation, retired persons formed the main bulk (38%) followed by housewife (26%), service & business (17%), farmer & day laborer (15%) and student (4%). Nearly half (49%) of the patients was

middle class, 38% poor and 13% rich. Almost 50% of the patients were smoker (Table I). Over one-third (36%) of the patients complained of solid food dysphagia alone, 20% liquid food dysphagia alone and 44% complained of both solid and liquid food dysphagia. More than three-quarters (78%) presented with heart-burn as well (Table II).

Investigating the causes or etiological factors of dysphagia, it was revealed that 7% of the patients had history of ingesting chemical substances (either accidentally or as an attempt to suicide). Fifteen percent of the patients had history of taking steroid and 12% had history of taking NSAIDs. Only 2% of the patients gave the history of radiation injury and another 2% had history of ingesting foreign substances. Sixty two percent of the respondents had co-morbid conditions like diabetes mellitus (28%), hypertension (23%), candidiasis (6%), lymphoma (3%), PUD and GERD (each 1%) (Table III). Clinical examination revealed that 20% were underweight and 10% overweight or obese in terms of BMI. Nearly two-thirds (63%) were anaemic with glossitis and koilonychia being present in 47 and 17% of the patients respectively. About one-third (32%) had cervical lymphadenopathy and only 2% exhibited thyromegaly (Table IV).

Table I. Distribution of the respondents by residence (n = 100)

Demographic features	Frequency	Percentage
Age (years)		
25-35	10	10.0
35-45	11	11.0
45-55	19	19.0
55-65	26	26.0
65-85	34	34.0
Sex		
Male	62	62.0
Female	38	38.0
Residence		
Rural	60	60.0
Urban	40	40.0
Occupation		
Service & business	17	17.0
Farmer & day laborer	15	15.0
Housewife	26	26.0
Retired persons & others	38	38.0
Students	4	4.0
Socioeconomic status		
Poor	38	38.0
Middle class	49	49.0
Rich	13	13.0
Smoking habit	48	48.0

Table II. Distribution of the respondents by mode of presentation (n = 100)

Presentation	Frequency	Percentage
Types of dysphagia		
Solid food	36	36.0
Liquid food	20	20.0
Solid & liquid	44	44.0
Heartburn		
Present	78	78.0
Absent	22	22.0

Table III. Distribution of the respondents by etiology of dysphagia (n = 100)

Etiological clue	Frequency	Percentage
Ingestion of chemical substance		
Yes	7	7.0
No	93	93.0
Radiation injury		
Yes	2	2.0
No	98	98.0
Ingestion of foreign substance		
Yes	2	2.0
No	98	98.0
History of taking offending drugs		
Steroid	15	15.0
NSAIDS	12	12.0
Co-morbid condition		
Diabetes mellitus	28	28.0
Hypertension	23	23.0
Candidiasis	6	6.0
Lymphoma	3	3.0
PUD	1	1.0
GERD	1	1.0

Table IV. Distribution of the respondents some clinical examination findings (n=100)

Clinical examination findings	Frequency	Percentage
Nutritional status (BMI kg/m^2)		
Underweight (BMI < 18.5 kg/m^2)	20	20.0
Normal (BMI 18.5-25.0 kg/m^2)	70	70.0
Overweight or obese (BMI ≥ 25.0 kg/m^2)	10	10.0
Anemia		
Yes	63	63.0
No	37	37.0
Koilonychia		
Present	17	17.0
Absent	83	83.0
Thyromegaly		
Present	2	2.0
Absent	98	98.0
Cervical lymphadenopathy		
Present	32	32.0
Absent	68	68.0
Glossitis		
Present	47	47.0
Absent	53	53.0

Table V shows the distribution of the respondents by their pertinent laboratory investigation findings. Nearly 30% of the patients had moderate to severe anaemia and 40% had mild anaemia. About one-third (31%) exhibited raised ESR (> 55 mm at the 1st hour) and 19% had raised fasting blood glucose level (7-8 mmol/L). Only 12 respondents had positive findings on chest X-ray-4 with cardiomegaly, 4 with COPD, 2 mediastinal widening, 1 chronic PTB and 1 mediastinal lymphadenopathy. Endoscopy of upper GI tract showed 29% with ulceroproliferative lesion 35 cm from the incisor teeth, 22% with multiple white patches in the whole length of oesophagus, 18% with stricture & narrowing of the oesophagus extending 30 cm from the incisor teeth, 13% with malignant stricture & narrowing 25 cm from the incisor teeth, 10% had proliferative lesion at mid oesophagus with narrowing of lumen and 8% malignant looking ulcer with elevated margin in the lower oesophagus. Over half (56%) of the respondents had positive findings on Ba-swallow oesophagus-47 with filling defect in the lower oesophagus, 5 narrowing in the middle part of oesophagus and 4 dilatation in the mid oesophagus. Twenty respondents had positive findings on USG of whole abdomen.-10 with multiple solid tumors in liver. Others had hepatoma (3%), mass in the epigastrium (2%), cystitis (1%), intraabdominal lymphadenopathy (1%) and splenomegaly (Table VI).

Based on symptoms, physical examination and laboratory findings, the cases were predominantly diagnosed with carcinoma of the oesophagus (42%), followed by drug-induced oesophageal ulcer (16%), diabetes mellitus with oesophageal candidiasis (11%), corrosive-induced oesophageal ulcer (7%), fungal oesophagitis (7%) and erosive oesophagitis (6%). Other rarely diagnosed diseases are shown in the table VII.

Table V. Distribution of the respondents by investigation findings (n = 100)

Lab Investigations	Frequency	Percentage
Hb% (mg/dl)		
5-8 (moderate to severe anaemia)	29	29.0
9-12 (mild anaemia)	40	40.0
13-16 (normal level)	31	31.0
ESR mm in 1st hour		
15-55	69	69.0
55-98	31	31.0
FBS (mmol/L)		
4-7	81	81.0
7-8	19	19.0

Table VI. Distribution of the respondents by image findings (n = 100)

Image findings	Frequency	Percentage
CXR (P/A-view)		
Cardiomegaly	4	4.0
COPD	4	4.0
Chronic PTB	1	1.0
Mediastinal lymphadenopathy	1	1.0
Mediastinal widening	2	2.0
Endoscopy of upper GIT		
Ulceroproliferative lesion 35 cm from the incisor teeth	29	29.0
Multiple white patches in the whole length of oesophagus	22	22.0
Stricture & narrowing of the oesophagus 30 cm from the incisor teeth	18	18.0
Malignant stricture & narrowing		
25 cm from the incisor teeth	13	13.0
Malignant looking ulcer with elevated margin in the lower oesophagus	8	8.0
Proliferative lesion seen at mid oesophagus with narrowing of lumen	10	10.0
Ba-swallow of oesophagus		
Filling defect in the lower oesophagus	47	47.0
Narrowing in the middle part of oesophagus	5	5.0
Dilatation in the mid oesophagus	4	4.0
USG of whole abdomen		
Multiple solid tumors in liver	10	10.0
A mass is seen in the epigastrium	2	2.0
Cystitis	1	1.0
Hepatoma	3	3.0
Intraabdominal lymphadenopathy	1	1.0
Spleenomegaly & intraabdominal lymphadenopathy	2	2.0

Table VII. Distribution of the respondents by diagnosis (n = 100)

Diagnosis	Frequency	Percentage
Carcinoma of oesophagus	42	42.0
Drug-induced oesophageal ulcer	16	16.0
DM with oesophageal candidiasis	11	11.0
Corrosive-induced oesophageal ulcer	7	7.0
Fungal oesophagitis	7	7.0
Erosive oesophagitis	6	6.0
GERD	3	3.0
Oesophageal diverticula	3	3.0
Fish bone induced oesophageal ulcer	2	2.0
Oesophageal polyp	1	1.0
Radiation induced oesophageal stricture	2	2.0

DISCUSSION:

The age distribution shows the patients were predominantly older, male and rural resident. In terms of occupation, retired persons comprised the main bulk (38%). Half (49%) of the patients were middle-class and smoker. Consistent with the findings the present study, a similar study reported dysphagia to be a problem of elderly individuals.[10] Another study reported Indian females especially from rural background are less exposed to these predisposing conditions for oesophageal dysphagia.[11] Dysphagia is more prevalent in elderly, retired persons.[12] A similar study conducted in Europe found dysphagia to be more common in persons exposed to smoking.[13] Presence of both solid and liquid food dysphagia were more or less common, followed by solid food dyaphagia alone and liquid food dysphagia alone. A substantial proportion (78%) of patients presented with heart-burn as well. In contrast to this finding, a study conducted in the UK showed dysphagic patients to have more difficulty in swallowing solid food only.[14] Another similar study demonstrated heartburn to be a common feature of dysphagic patients.[15]

Probing the clue to dysphagia, some 7% of the patients gave the history of ingesting chemical substances (either accidentally or as an attempt to suicide), 15% had history of taking steroid and 12% had history of taking NSAIDs. History of radiation injury and history of ingesting foreign substances were rare. Over 60% of the respondents had co-morbid conditions like diabetes mellitus, hypertension, candidiasis and lymphoma. Clinical examination revealed 30% of the respondents to be nutritionally compromised (20% underweight and 10% overweight or obese). Nearly two-thirds (63%) were anaemic with glossitis and koilonychia being present in 47 and 17% of the patients respectively. About one-third (32%) exhibited cervical lymphadenopathy. Seventy percent patients were anaemic (30% had moderate to severe anaemia and 40% mild anaemia). About one-third (31%) had elevated ESR and 19% had raised fasting blood glucose. Endoscopy of upper GI tract showed 29% with ulceroproliferative lesion, 22% with multiple white patches in the whole length of oesophagus, 18% with stricture & narrowing of the oesophagus, 13% with malignant stricture & narrowing, 10% had proliferative lesion at mid oesophagus with narrowing of lumen and 8% malignant-looking ulcer with elevated margin in the lower oesophagus. Over half (56%) had positive findings on Ba-swallow oesophagus-47 with filling defect in the lower oesophagus, 5 narrowing in the middle part of oesophagus and only 4 dilatations in the mid oesophagus. Twenty respondents had positive findings on USG of whole abdomen; of them, 10 had multiple solid tumors in liver.

Based on symptoms, physical examination and laboratory findings, 42% were diagnosed as having oesophagial carcinoma, 16% drug-induced oesophageal ulcer and 11% diabetes mellitus with oesophageal candidiasis. Other diagnoses were corrosive-induced oesophageal ulcer, fungal oesophagitis and erosive oesophagitis; they are not uncommon in gastroenterology, but less commonly encountered as compared to inflammatory lesions like reflux oesophagitis.[16]

CONCLUSION:

Oesophagial carcinoma is the most common cause of dysphagia, followed by drug-induced oesophageal ulcer and diabetes mellitus with oesophageal candidiasis. The less common causes of dysphagia are corrosive-induced oesophageal ulcer, fungal oesophagitis and erosive oesophagitis. Dysphagia affects quality of life of the patients and may lead to dehydration, malnutrition and aspiration pneumonia. Therefore, the findings derived from our study may have clinical implications in reducing morbidity and mortality caused by dysphagia. Detailed history, physical examination together with minimally invasive endoscopic, radiological and other investigations led by a multidisciplinary team is important for early diagnosis of the causes of dysphagia.

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