ETIOLOGIES OF ESOPHAGEAL DYSPHAGIA: EXPERIENCE AT GASTROENTEROLOGY DEPARTMENT, HAYATABAD MEDICAL COMPLEX, PESHAWAR

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Abstract:

Objective of the Study: To find different causes of dysphagia in patients with esophageal dysphagia.

Patient and Methods: This descriptive study was conducted at Gastroenterology and Hepatology Department of Hayatabad medical complex Peshawar. Patients with complains of esophageal dysphagia were included in the study after applying the exclusion criteria. Detailed history taking, systemic examination and investigations including hematological, biochemical and radiological parameters were done for all patients followed by endoscopic examination of the upper GI tract and biopsies were taken from suspicious lesions. All data was analyzed using SPSS Program 10.0. Descriptive statistics were calculated for the study variables.

Results: A total of ninety eight patients with esophageal dysphagia were studied including 62.2% males and 37.8% females. Most cases were in the 40-60 years age group (86.7%) with majority of the cases from Afghanistan (52%). Esophageal carcinoma was the most common finding with middle third of esophagus the most common site of involvement. In 22.4% of cases peptic strictures were detected as a cause of esophageal dysphagia while achalasia was found in only 7 % of cases.

Conclusion: Dysphagia is considered an alarm symptom, indicating the need for an immediate evaluation to find the cause and initiate appropriate treatment. It is more common in males than females. Esophageal carcinoma is the most common cause of esophageal dysphagia in our set up and is more common in Afghans. It is one of the main worries of the patients having dysphagia. Progressive esophageal dysphagia initially for solids with weight loss should raise a suspicion of malignancy. Other common causes of esophageal dysphagia include peptic strictures and Achalasia.

Key Words: Dysphagia, Esophageal Carcinoma, Peptic stricture, Achalasia

INTRODUCTION

Dysphagia is the subjective sensation of hindrance to the passage of liquids or solids from oral cavity to the stomach. The word dysphagia is derived from the Greek words “dys” (with difficulty) and “phagia” (to eat). Dysphagia can be classified as either oropharyngeal or esophageal. Oropharyngeal dysphagia, also called transfer dysphagia, arises from disorders that affect the function of the oropharynx, larynx, and upper esophageal sphincter. Neurogenic and myogenic disorders as well as oropharyngeal tumors are the most common underlying mechanisms for oropharyngeal dysphagia. Esophageal dysphagia arises within the body of the esophagus, the lower esophageal sphincter, or cardia, and is most commonly due to mechanical causes or a motility disturbance. Patients with esophageal dysphagia usually describe the onset of symptoms several seconds after initiating a swallow. The cornerstone of evaluation of patients with dysphagia is a careful history[1]. A critical component of the medical history is determining the types of food that produce symptoms (solids, liquids, or both) and the progression of symptoms. Dysphagia to both solids and liquids from the onset of symptoms is probably due to a motility disorder of the esophagus. In contrast, dysphagia for solids that later progresses to involve liquids is more likely to reflect mechanical obstruction[2]. Progressive dysphagia is usually caused by malignancy or a peptic stricture. Associated Symptoms or findings such as heartburn, weight loss, hematemesis, coffee ground emesis, anemia, regurgitation of food particles, and respiratory symptoms can further help to narrow the differential diagnosis however absence of theses associated symptoms does not exclude the presence of organic pathology as approximately one-fourth of patients with peptic stricture and at least one-third of those with adenocarcinoma of the esophagus had no heartburn prior to diagnosis[3,4]. Hence dysphagia is considered to be an alarm symptom, indicating the need for an immediate evaluation to define the exact cause and initiate appropriate therapy.

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OBJECTIVE

To find different causes in patients with esophageal dysphagia.

PATIENTS AND METHODS

This descriptive study was conducted in the Gastroenterology and Hepatology Department of Hayatabad medical complex Peshawar, from January 2012 till December 2012. Written informed consent was obtained from all the participating patients.

All adult patients from 40-65 years of age of either sex who complained of esophageal dysphagia were included in the study on the basis of non-probability convenience sampling after careful history, examination and required investigations including hematological investigations and biochemistry.

Patients who had cerebrovascular accidents, Parkinson's disease, Multiple sclerosis, systemic sclerosis, Brain stem tumor, Mediastinal tumors, vascular compression, oropharyngeal tumors or cervical osteophytes etc were excluded from the study.

Patients were interviewed and data regarding demographic profile, history of dysphagia, presence of associated medical illnesses and medications used were collected.

Data was recorded in a specially designed proforma. All data was analyzed using statistical package SPSS 10.0. Descriptive statistics were used. Mean and standard deviation was calculated for age. Frequencies and percentages for variables were calculated.

RESULTS

A total of 98 patients of mechanical dysphagia were included in this study. Out of 98 cases of mechanical dysphagia there were 61 (62.2%) males and 37 (37.8%) were females with male to female ratio of 1.64:1 (Fig No 1).

The age of patients ranged from 40-65 years with a mean age of 53.01 years, ± standard deviation of 7.90 years. Majority of patients 49 (50%) were in the age range of 40-50 years (Table No 1).

Patients presented from various districts and cities

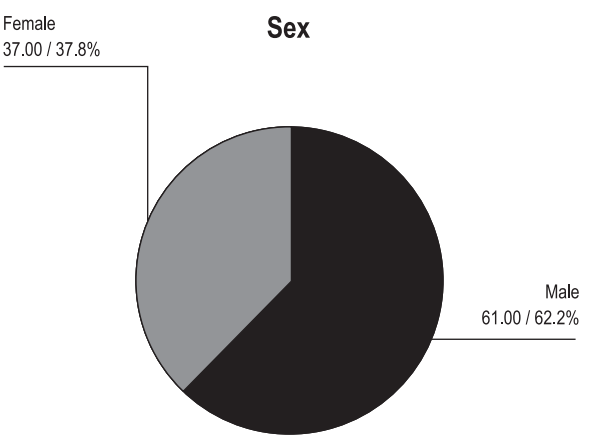

Fig 1: sex wise distribution of patients

Table 1: age wise distribution of patients

	Frequency	Percent
40-50 Years	49	50.0
51-60 Years	36	36.7
61-65 Years	13	13.3
Total	98	100.0

Table 2: area wise distribution of patients

	Frequency	Percent
Afghanistan	51	52.0
Peshawar	15	15.3
Tribal Belt	11	11.2
Swat	8	8.2
Swabi	7	7.1
Mardan	6	6.1
Total	98	100.0

Table 3: Biopsy findings

	Frequency	Percent
Squamous Cell Carcinoma	63	64.3
Peptic Stricture	22	22.4
Adenocarcinoma	6	6.1
Achalasia	7	7.1
Total	98	100.0

Table 4: site of involvement in carcinoma esophagus

	Frequency	Percent
Upper 3rd of Esophagus	3	4.3
Middle 3rd of Esophagus	45	65.2
Lower 3rd of Esophagus	21	30.4
Total	69	100.0

of Khyber Pakhtunkhwa and Afghanistan. Majority of patients i.e 51 (52%) belonged to Afghanistan followed by 15 (15.3 %) patients from Peshawar and rest from other areas of Khyber Pakhtunkhwa as shown in (Table No 02).

Carcinoma of esophagus was the commonest lesion in our study responsible for esophageal dysphagia among other lesions as shown in (Table No 03).

doscopic examination middle third of esophagus was the most common site of involvement by esophageal carcinoma as shown in Table No 04.

DISCUSSION

Dysphagia is difficulty in swallowing and may arise from problems in transferring the food bolus from the oropharynx to the upper esophagus (oropharyngeal dysphagia) or from impaired transport of the bolus through the body of the esophagus (esophageal dysphagia). It is the esophageal dysphagia which brings the patients to gastroenterology department. It may be caused by mechanical obstruction when it is called mechanical or esophageal dysphagia or motility disorders, when it is called motor dysphagia[5].

The most common causes of mechanical dysphagia are carcinoma esophagus, peptic strictures etc, while the most common cause of motor dysphagia is achalasia. Malignancy is usually the primary concern of patients with this symptom, though most instances of dysphagia may be benign[6].

During this study period a total of 1480 upper gastrointestinal endoscopies were carried out on symptomatic patients. Out of these 98 patients were diagnosed as having dysphagia. Carcinoma esophagus was the dominant pathology while benign looking strictures were the second most common finding. The overall percentage of esophageal cancer was 4.66%. This observation is comparable to the other study reported from NWFP by Khan SM and colleagues[7].

Esophageal carcinoma is the sixth most common cancers in men in local population, while it is the leading cancer in Afghans. It is similar to those observed in other study from Pakistan conducted by Jan S and collegue[8]. Carcinoma esophagus is usually the disease of old age, however, it has been observed in young age group as well as observed by Afridi SP and collegues[9].

The age group having the highest incidence of esophageal cancer was 40 to 60 years with mean age of 51.34 years $\pm$7.09 SD in this study. The results of other series from Pakistan show similar frequency of age distribution with a mean of 59 $\pm$13 years in males and 50 $\pm$ 13 years in females. In our study male to female ratio was 1.6:1 while in other local study by Salih M et al. the male to female ratio was 1.4:1 [10].

Out of 69 cases of carcinoma esophagus 51 (73.91%) were from Afghanistan and 11 (15.94%) from tribal belt between Afghanistan and Pakistan. The frequent diagnosis of esophageal carcinoma among these patients endoscoped for dysphagia shows that patients from this region with dysphagia are at higher risk of malignancy, which is also explained by different other studies as well, and this area is in the Iran- China belt (having the highest incidence of carcinoma of esophagus in the world) [11].

Endoscopically most of the lesions were located in the middle third 45 (65.2%). The lower third was involved in 21 (30.4%) cases, while the upper third of esophagus was involved in only 3(4.3%) cases. Similar involvement was shown in another study from Pakistan conducted by Ahmad WU et al[12].

In our study histologically squamous cell carcinoma was more common than adenocarcinoma, where squamous cell carcinoma was found in 58% of patients and adenocarcinoma was diagnosed in 11% of the patients. These observations were also seen in other study reported from Singapore where squamous cell carcinoma was found in 70.1% and adenocarcinoma was found in 3.2%[13]. Squamous cell carcinoma is associated with tobacco and alcohol abuse, which is common in Asia (particularly China and Singapore), and demonstrates a predilection to African Americans in the United States. In contrast, adenocarcinoma occurs mainly in Caucasian males in their 60s who have a long history of GERD and underlying Barrett's mucosa[14, 15]. The incidence of adenocarcinoma of the esophagus and cardia is among the most rapidly increasing of all cancers in the United States[16, 17].

An achalasia-like syndrome (pseudoachalasia) has been described in patients with adenocarcinoma of the cardia due to microscopic infiltration of the myenteric plexus or the vagus nerve[18]. Patients are usually older than 60, have had symptoms for less than one year, and report a significant weight loss (>10 kg) [19].

In our study benign esophageal strictures were noted in 22 (22.4%) patients while similar observations were made in another study from Singapore in which 26.7% patients were having benign esophageal strictures[20]. Out of 22 patients with benign strictures, 21(95.45%) strictures were peptic and one was due to corrosive intake. Peptic strictures are more common amongst the benign strictures[20].Peptic stricture is a complication of acid reflux, which occurs in approximately 10 percent of patients with gastroesophageal reflux disease (GERD) who seek medical attention[21, 22]. The development of peptic strictures among patients with reflux has been associated with older age, male gender, and longer duration of reflux symptoms[23].

Peptic strictures were present in the lower third, while strictures due to corrosive intake involved the upper third of the esophagus. Benign strictures are two to three times more common in male than in females as observed by Reguerio MD[24]. Our observations in this study were made with male to female ratio of 1:1. This discrepancy with international literature, in addition to the very small sample size, may also be due to the different environmental factors involved in the disease process.

Achalasia as a cause of esophageal dysphagia remains an uncommon but a worldwide disorder[25]. In our study achalasia was seen in 7 (7.1%) patients, five were males and two were males. Other studies have shown equal male to female ratio[26].

The diagnosis of achalasia was made by barium swallow and endoscopy. Barium radiograph provide a better diagnostic index than endoscopy[27]. Manometery, the gold standard, for diagnosis of achalasia

was not available in our set up. Endoscopically these patients had a spastic gastro esophageal junction with resistance to passage of gastroscope and a dilated esophagus with retained food contents. The barium swallow showed smooth tapered tip of the lower end of esophagus in all cases of achalasia.

CONCLUSION

Esophageal dysphagia is an alarm symptom which needs urgent evaluation and management especially in elderly patients with history of weight loss to specifically exclude malignancy as it is the main worry of the patient. In our study esophageal malignancy was the most common cause for esophageal dysphagia. It was more common in Afghan patients and patients from the tribal belt between Pakistan and Afghanistan as this area has the highest incidence of esophageal malignancy in the world. Benign strictures secondary to acid reflux and achalasia were the other common causes of esophageal dysphagia in our study. For the diagnosis and management of these patients upper GI endoscopy is the procedure of choice as both diagnostic and therapeutic interventions can be performed at the same time. For patients with achalasia barium swallow was found to have a better diagnostic sensitivity.

REFRENCES

1. Trate DM, Parkman HP, Fisher RS. Dysphagia: Evaluation, diagnosis and treatment. Prim Care 1996; 23:417.
2. Castell DO, Donner MW. Evaluation of dysphagia: A careful history is crucial. Dysphagia 1987; 2:65.
3. Nayyar AK, Royston C, Bardhan KD. Oesophageal acid-peptic strictures in the histamine H2 receptor antagonist and proton pump inhibitor era. Dig Liver Dis 2003; 35:143.
4. Lagergren J, Bergstrom R, Lindgren A, Nyren O. Symptomatic gastroesophageal reflux as a risk factor for esophageal adenocarcinoma. N Engl J Med 1999; 340:825.
5. Heading RC, Teblaldi M. Esophageal symptoms and motility disorders Medicine Inter 2003;3:1-7.
6. Khokar N, Gill ML, Khan MM. Endoscopic dilation of esophageal strictures. J Coll Physicians Surg Pak 2003;13:555-7.
7. Khan SM, Gillani J, Salarzai SN. Cancer in North West Pakistan and Afghan Refugees. Pak Med Assoc 1997;47:4.
8. Jan S, Nadeem A. One year experience of treating carcinoma esophagus. J Postgrad Med Inst 2004;181:419-23.
9. Afridi SP, Khan A, Waheed I. High risk factors in patients with carcinoma esophagus. J Coll Physicians Surg Pak 2000;10:14-6.
10. Salih M, Abid S, Hamid SS, Shah SHI, Abbas Z, Jafri SMW. Carcinoma of the esophagus. Are we different? J Coll Physicians Surg Pak 2005;15:313-4.
11. Ajlouni YM . Esophageal carcinoma in Jordanian field hospital in Afghanistan. Pak J Med Sci 2007;23:82-5.
12. Ahmad WU, Qureshi H, Alam I, Zubari SJ, Jamal QS, Alam SM. Esophageal carcinoma in Karachi. JMPA 1992;6:133-5.
13. Fernandes ML, Seow A, Chan YH, Ho KU. Opposing trends in incidence of esophageal squamous cell carcinoma and adenocarcinoma in a multi- ethnic Asian country. Am J Gastroenterol 2006;101:1430-6.
14. Lieberman DA, Oehlke M, Helfand M. Risk factors for Barrett's esophagus in community-based practice. GORGE consortium. Gastroenterology Outcomes Research Group in Endoscopy. Am J Gastroenterol 1997; 92:1293.
15. Sampliner RE. Practice guidelines on the diagnosis, surveillance, and therapy of Barrett's esophagus. The Practice Parameters Committee of the American College of Gastroenterology. Am J Gastroenterol 1998; 93:1028.
16. Pera M, Cameron AJ, Trastek VJ. Increasing incidence of adenocarcinoma of the esophagus and esophagogastric junction. Gastroenterology 1993; 104:510.
17. Blot WJ, Devesa SS, Fraumeni JF Jr. Continuing climb in rates of esophageal adenocarcinoma: An update. JAMA 1993; 270:1320.
18. DiBaise JK, Quigley EM. Tumor-related dysmotility. Gastrointestinal dysmotility syndromes associated with tumors. Dig Dis Sci 1998; 43:1369.
19. Tucker HJ, Snape WJ, Cohen S. Achalasia secondary to carcinoma: Manometric and clinical features. Ann Intern Med 1978; 89:315.
20. Said A, Brust DJ, Gaumnitz EA, Reicheldefer M. Predictors of early recurrence of benign esophageal strictures. Am J Gastroenterol 2003;98:1252-6.
21. Katz PO, Knuff TE, Benjamin SB, Castell DO. Abnormal esophageal pressures in reflux esophagitis: Cause or effect? Am J Gastroenterol 1986; 81:744.
22. Spechler SJ. AGA technical review on treatment of patients with dysphagia caused by benign disorders of the distal esophagus. Gastroenterology 1999; 117:233.
23. El-Serag HB, Sonnenberg A. Association of esophagitis and esophageal strictures with diseases treated with nonsteroidal anti-inflammatory drugs. Am J Gastroenterol 1997; 92:52.
24. Reguerio MD, Specher SJ. Esophageal stricture in clinical practice of gastroenterology. Churchill Livingstone 1999;1:45-6.
25. Achkar E. Achalsia. Gastroenterologist 1995;3:273-288.
26. Ramound L, Lach B, Shami FM. Inflammatory aetiology of primary esophageal achalasia an immunohistochemical and ultrastucture study of auerbach's plexus. Histopathology 1999;35:445-53.
27. Ott DJ. Motility disorders of esophagus. Radiol Clin North America 1995;32:1117-1134.