

## ORIGINAL ARTICLE

## ENDOSCOPIC FINDINGS AND TREATMENT OUTCOME IN CASES PRESENTING WITH DYSPHAGIA

Muhammad Hafeez, Amjad Salamat\*, Farrukh Saeed\*\*, Hafiz Zafar†, Fayyaz Hassan††, Asif Farooq†††,

Department of Medicine and Gastroenterology, CMH Malir, Karachi, \*CMH Peshawar, \*\*MH Rawalpindi, †CMH Rawalpindi, ††CMH Multan, †††PNS Shifa, Karachi

**Background:** Dysphagia results from impeded transport of liquids, solids, or both from the pharynx to the stomach. Among the malignant lesions, carcinoma of oesophagus is the commonest cause. Our objective was to find out the frequency of different endoscopic lesions and outcome of the endoscopic therapeutic interventions in patients presenting with dysphagia. **Methods:** This descriptive study was conducted at Department of Gastroenterology, Military Hospital Rawalpindi from June 2008 to May 2009. Patients of dysphagia after their consent were interviewed about the symptoms. Relevant biochemical investigations were done. Barium swallow and upper Gastrointestinal (GI) Endoscopy were carried out. Benign strictures were dilated with Savary Gilliard Dilators. Malignant strictures were further evaluated to decide treatment plan. In patients considered to have oesophageal dysmotility, pressure manometry was done before specific therapy. **Results:** Seventy nine patients were enrolled. Twenty-five had malignant strictures, out of those commonest was adenocarcinoma 14 (56%). Twenty-nine had benign strictures the commonest being Gastro-oesophageal Reflux Disease (GERD) related peptic stricture 9 (31%). Fifteen had oesophageal dysmotility, and achalasia was present in 10 out of them. After evaluation 12 out of 25 patients with malignant strictures were considered fit for surgery. Self-expanding metal stents (SEMS) were passed in 5. All benign strictures were dilated with Savary-Gillard dilators. Pneumatic balloon dilation was done in patients of achalasia. **Conclusion:** The commonest malignant lesion resulting in dysphagia was adenocarcinoma while in benign it was GERD related peptic stricture. Achalasia was most frequent in oesophageal motility disorders. Standard of treatment for early oesophageal malignancy is surgical resection. SEMS is a reliable way to allay dysphagia in inoperable cases. Savary Gillard dilatation in benign, and pneumatic balloon achalasia dilatations are effective ways of treatment.

**Keywords:** Dysphagia, Malignant strictures, Benign strictures, Motility disorders, Achalasia

## INTRODUCTION

Dysphagia results from impeded transport of liquids, solids, or both from the pharynx to the stomach. Among the malignant lesions, carcinoma of oesophagus is the commonest cause. Worldwide, oesophageal cancer is the 6<sup>th</sup> leading cause of death from cancer.<sup>1</sup> There is a moderately high incidence of squamous cell carcinoma in Karachi because of smoking and use of *paan* and nuts. High incidence of cancer in Quetta is due to environmental carcinogens.<sup>2</sup> Squamous cell carcinoma was more frequent in a study done in northern Pakistan.<sup>3</sup> In non-malignant lesions peptic stricture and achalasia are relatively common causes.<sup>4,5</sup> Dysphagia and weight loss were common presentations in non-malignant oesophageal diseases.<sup>6</sup> Third most common cause is motility disorder especially achalasia cardia.

For the detection of regional lymph node metastases, EUS is more sensitive, whereas CT and PET (positron emission tomography) are more specific tests.<sup>7,8</sup> Likewise, in patients with normal upper GI endoscopy and considered to have oesophageal dysmotility pressure manometry was done. It is the only investigation that enables a precise diagnosis of

oesophageal motility disorders, whether primary or secondary to local or systemic disease.

This study was planned to find out frequency of different endoscopic lesions in patients presenting with dysphagia, and to see any differences in previous studies because previous studies were carried out on particular population groups with either benign or malignant lesions.<sup>2,3,6</sup>

## MATERIAL AND METHODS

From June 2008 to May 2009, all patients presenting at Department of Gastroenterology, Military Hospital Rawalpindi with dysphagia were included in the study. Consecutive convenient sampling was done. They were interviewed in details about the dysphagia and associated symptoms as per structured performa. Patients not fit or unwilling for investigations were excluded. All relevant biochemical investigations were carried out. Barium swallow followed by upper GI endoscopy was carried out under conscious sedation. In patients having benign strictures, dilatation was done with Savary Gilliard Dilators of 7–15 mm in diameter. Patients were called on every third day for the follow-up until they had adequate dilatation and relief of symptoms. Complex strictures were dilated with guide wire under fluoroscope and were

given four quadrant intra-lesional injections of triamcinolone acetone. In patients with oesophageal malignancy, staging was done with CT Scan Abdomen, Chest, and EUS to plan treatment. During upper GI endoscopy, biopsy was done for histopathology. Patients considered fit for surgery were sent to thoracic surgeons. SEMs were passed in inoperable cases for palliation. In patients with normal endoscopy and considered to have motility problems pressure manometry was done with water-perfused catheters coupled to volume-displacement transducers. In patients with achalasia over the scope pneumatic balloon dilatation was done. Patients with oesophageal spasm and lower oesophageal ulceration were managed with Ca<sup>++</sup> channel blockers and PPIs respectively. Percutaneous Endoscopic Gastrostomy Tube (PEG) tube was inserted in patients with oropharyngeal dysphagia.

**RESULTS**

Seventy-nine cases were enrolled in the study. Fifty-five were male and 24 were female. There mean age was 52.37±17.43 years. Fifty-five (69%) cases were from Punjab, 11 (14%) were from KPK, 7 (9%) from Azad Jammu Kashmir, 6 (8%) from Sindh. Ethnic distribution of malignant stricture was as follows, Punjab 15 (60%), KPK 7 (28%), Gilgit/Azad Kashmir 4 (16%). Frequency of associated symptoms in patients with dysphagia is illustrated in Table-1.

**Table-1: Frequency of associated symptoms in patients with dysphagia (n=79)**

Symptoms	No.	%
Regurgitation	24	30.37
Reduced appetite/weight loss	45	56.96
Liquid dysphagia	4	5.06
Solid dysphagia	42	53.16
Combined dysphagia	33	41.77
Retrosternal burning	19	24.05
Odynophagia	11	13.92

Endoscopy findings of different lesions are explained in Table-2. Benign lesions are classified according to their possible aetiology, and malignant lesions according to their histopathological type. Motility problems are based on pressure manometry.

Frequency of the dilatations required in patients with benign strictures is shown in the Table-3. After evaluation of malignant strictures, 12 patients out of 25 were considered fit for surgery. Stenting was done in 5; dysphagia improved at 12 hours and remained so at follow-up one month after the procedure. Four patients died before any intervention. Rest did not turn up for any further management. Pneumatic balloon dilatation was done in all cases of achalasia cardia with excellent results. Patients with diffuse oesophageal spasm and raised upper oesophageal sphincter pressures were managed with Ca<sup>++</sup> channel blockers. Those who had lower oesophageal ulceration and inflammation were managed with PPIs.

**Table-2: Endoscopic findings of lesions (n=79)**

Type of Lesion	No.	%
<b>Benign lesions</b>	<b>29</b>	<b>37</b>
Peptic stricture with GERD	9	11
Oesophageal webs with iron deficiency	8	10
Caustic stricture	6	8
Post radiation strictures	3	4
Postoperative strictures	3	4
<b>Malignant lesions</b>	<b>25</b>	<b>32</b>
Adenocarcinoma	14	18
Squamous cell carcinoma	9	11
Undifferentiated carcinoma	2	3
<b>Inflammation/Infection</b>	<b>7</b>	<b>8</b>
Inflammation and ulceration	6	7
Candidiasis	1	1
<b>Motility disorder</b>	<b>15</b>	<b>19</b>
Achalasia	10	13
Hypertensive upper oesophageal sphincter	3	4
Diffuse oesophageal spasm	1	1
Low lower oesophageal sphincter pressure in systemic sclerosis	1	1
<b>Oropharyngeal dysphagia</b>	<b>3</b>	<b>4</b>
Bulbar palsy	2	3
vertebrobasilar stroke	1	1

**Table-3: Frequency of the dilatations required in patients with benign strictures**

Session	No.	%
1 session	16	55.2
2 sessions	5	17.24
3 sessions	2	6.89
5 sessions	2	6.89
8 sessions	2	6.89
10 sessions	2	6.89

**DISCUSSION**

Peptic stricture in benign and adenocarcinoma in malignant lesions were commonest in this study. Both are GERD related conditions. The rising incidence of oesophageal adenocarcinoma is consistent with epidemiologic trend being seen for GERD on global as well as local level.<sup>9-11</sup> Gastro-oesophageal reflux disease can cause the spectrum of injuries including oesophagitis, stricture, the development of columnar metaplasia in place of the normal squamous epithelium (Barrett’s oesophagus) and adenocarcinoma.<sup>10</sup> Squamous cell carcinoma was second common malignancy in this study in contrast to previous studies on Pakistani patients who revealed squamous cell carcinoma being commonest.<sup>2,3,12</sup> This trend could be due to ethnic or environmental variations and needs further studies.

Benign peptic oesophageal stricture should always be looked upon as a serious complication resulting from persistent and chronic gastro-oesophageal reflux, the magnitude of which is far above what is considered to be normal.<sup>13</sup> Clinical experience suggests that dietary changes may be beneficial if there are obvious dietary precipitants (coffee, chocolate, or fatty foods) and that lifestyle changes are warranted to reduce obesity, smoking, or excessive alcohol use if present. However, lifestyle modification alone is unlikely to eliminate the symptoms.<sup>14</sup> Aggressive anti-reflux therapy can cause partial regression of the specialised intestinal metaplasia in Barrett’s oesophagus.<sup>15</sup> Oesophageal webs

with iron deficiency are observed commonly in young women especially related to untreated menorrhagia. This is as common as peptic stricture that requires public health awareness. Caustic strictures were the most refractory, mainly the long segments. The greater was the number of dilation sessions needed for relief.<sup>4</sup> However intra-lesional injection hastened the recovery that match with previous studies.<sup>16</sup> Twenty-nine patients of benign strictures required 69 sessions of dilatations with average of 2.75, which is comparable with the previous series.<sup>6</sup> No abnormal bleeding or perforation were observed in this series, though serious complications such as perforation and bleeding may occur in approximately 0.5% of all oesophageal dilation procedures.<sup>17</sup>

Oesophageal dysmotility is also very common, as achalasia was the third leading cause of dysphagia in the study. Manometry should be performed if the initial tests for dysphagia are negative or non diagnostic, or to confirm a specific diagnosis, such as achalasia<sup>18</sup>, same was applied in this study. Achalasia is equally prevalent in both genders. The treatment options of achalasia are medications that relax smooth muscles, botulinum toxin injection, pneumatic dilatation and surgical myotomy.<sup>19</sup> Pneumatic dilatation is safe and effective, as it can be managed on outpatient basis with little morbidity and 81% success rate. Surgery is still an effective procedure with comparable 80% success rate.<sup>20</sup> Out of 10 patients of achalasia, 8 required single session of pneumatic dilatation. One had two sessions. In one patient who had recurrent symptoms despite dilatations, had Heller's myotomy done six months back. Achalasia patients required average 1.1 sessions in present series that is comparable to other published studies.<sup>6</sup> It is important that patients should be selected carefully for PEG.<sup>21</sup> Stroke is the most common indication for PEG (usually vertebro-basilar strokes). Amyotrophic lateral sclerosis is another indication for PEG tube insertion.<sup>22</sup> In this study, one patient of CVA with vertebro-basilar insufficiency and two had amyotrophic lateral sclerosis that had to have PEG tube insertion for feeding.

## CONCLUSION

Dysphagia requires immediate medical attention so that early curative intervention could be undertaken. The most commonly accepted standard of care for localised oesophageal malignancy is surgical resection. However, in inoperable cases SEMS is effective palliation. Savary Gilliard Dilatation in benign and pneumatic balloon dilatations are safe and effective means of treatment. Pressure manometry should be considered in patients with dysphagia and normal upper GI endoscopy.

## Address for Correspondence:

**Dr. Muhammad Hafeez**, Department of Medicine and Gastroenterologist, CMH Malir, Karachi, Pakistan. **Cell:** +92-321-9531360, +92-300-5512854  
**Email:** dmhafeez@yahoo.com

## REFERENCES

1. Pisani P, Parkin DM, Bray F, Ferlay J. Estimates of the worldwide mortality from 25 cancers in 1990. *Int J Cancer* 1999;83:18–29.
2. Bhurgri Y, Faridi N, Kazi L, Ali S, Bhurgri H, Usman A, *et al.* Cancer Oesophagus Karachi 1995–2002: Epidemiology, Risk Factors and Trends. *J Pak Med Assoc* 2004;54:345.
3. Iman NU, Khan H, Iqbal S. Endoprosthetic palliation of malignant oesophageal stricture in north of Pakistan. *J Med Sci* 2008;16(2):68–71.
4. Novais P, Lemme E, Equi C, Medeiros C, Lopes C, Vargas C. Benign strictures of the oesophagus: endoscopic approach with Savary-Gilliard bougies. *Arq Gastroenterol* 2008;45(4):290–4.
5. Yeming W, Somme S, Chenren S, Huiming J. Balloon catheter dilatation in children with congenital and acquired oesophageal anomalies. *J Paeds Surg* 2000;37(3):398–402.
6. Rustam K, Shahab A, Saeed H, Zaigham A, Hasnain S, Wasim J. Outcome of Endoscopic therapeutic interventions: are they different among various non-malignant oesophageal diseases? *J Ayub Med Coll Abbottabad* 2005;17(4):22–5.
7. VanVliet EP, Heijnenbroek-Kal MH, Humink MG, Kuipers EJ, Siersema PD. Staging investigations for oesophageal cancer: a meta-analysis. *Br J Cancer* 2008;98(3):547–57.
8. Hussain T, Salamat A, Farooq MA, Hassan F, Hafeez M. Indications for Endoscopic Ultrasound and Diagnosis on Fine-Needle Aspiration and Cytology. *J Coll Physician Surg Pak* 2009;19(4):223–7.
9. Durrani AA, Yaqoob N, Abbasi S, Siddiq M, Moin S. Pattern of upper Gastrointestinal malignancies in Northern Punjab. *Pak J Med Sci* 2009;25(2):302–7.
10. Dent J, El-Serag HB, Wallander MA, Johansson S. Epidemiology of gastro-oesophageal reflux disease: a systematic review. *Gut* 2005;54:710–7.
11. Lagarde SM, ten Kate FJ, Reitsma JB, Busch OR, van Lanschot JJ. Prognostic factors in adenocarcinoma of the oesophagus or gastrooesophageal junction. *J Clin Oncol* 2006;24:4347–55.
12. Alidina A, Gaffar A, Hussain F, Islam M, Vaziri, Burney I, *et al.* Survival data and prognostic factors seen in Pakistani patients with oesophageal cancer. *Annals of Oncology* 2004;15:118–22.
13. Guda NM, Vakil N. Proton pump inhibitors and the time trends for oesophageal dilation. *Am J Gastroenterol* 2004;99:797–800.
14. Peter J. Kahrilas. Gastrooesophageal Reflux Disease. *N Engl J Med* 2008;359:1700–7.
15. Horwhat JD; Baroni D; Maydonovitch C; Osgard E; Ormseth E; Rueda-Pedraza A, *et al.* Normalization of intestinal metaplasia in the oesophagus and oesophago-gastric junction: incidence and clinical data. *Am J Gastroenterol* 2007;102(3):497–506.
16. Ramage JJ Jr, Rumalla A, Baron TH, Pochron NL, Zinsmeister AR, Murray JA, *et al.* Prospective, randomized, double-blind, placebo-controlled trial of endoscopic steroid injection therapy for recalcitrant oesophageal peptic strictures. *Am J Gastroenterol* 2005;2419–25.
17. Pandolfino, JE, Kahrilas, PJ. AGA technical review on the clinical use of oesophageal manometry. *Gastroenterology* 2005;128:209.
18. Hernandez LJ, Jacobson JW, Harris MS. Comparison among the perforation rates of Maloney, balloon, and Savary dilation of oesophageal strictures. *Gastrointest Endoscopy* 2000;51:460–2.
19. Ahmed A, Yusufu LM, Ukwenya YA, Khalid L, Garba ES. Surgical management of achalasia in Zaria, Northern Nigeria. *S Afr J Surg* 2008;46:48–51.
20. Waqar UA, Huma Q, Maher M, Arif A. Achalasia in a gastroenterology unit of Karachi. *J Pak Med Assoc* 2008;58:661–4.
21. Nicholson FB, Korman MG, Richardson. Percutaneous endoscopic gastrostomy: a review of indications, complications and outcome. *J Gastroenterol Hepatol* 2000;15(1):21–5.
22. Desport JC, Mabrouk T, Bouillet P. Complications and survival following radiologically and endoscopically-guided gastrostomy in patients with amyotrophic lateral sclerosis. *Amyotrophic Lateral Sclerosis Other Motor Neuron Disord* 2005;6(2):88–93.