Proceeding S.Z.P.G.M.I vol: 15(1) 2001, pp. 1-3.

Original Articles

Endoscopic Dilatation of Esophageal Strictures - An Analysis of 544 Patients

Altaf Alam, Arshad Kamal Butt, Farzana Shafqat, Anwaar A. Khan, S. Waqar H. Shah, Kashif Malik, Shahzad Sarwar, Johar Amin, Aamina Hassan
Department of Gastroenterology, Shaikh Zayed Hospital, Lahore.

SUMMARY

Dilatation of esophageal strictures is a common procedure to treat esophageal narrowing and relieve dysphagia with relatively low complication rate of 1%. This study is based on retrospective analysis of 544 patients who underwent endoscopic dilatation of esophageal strictures in the department of Gastroenterology during 15 years from 1986 to September 2001. 1597 dilatation procedures were performed in these 544 patients, 273 (50.18%) were males and 271 (49.82%) were females. The most common etiology of strictures was peptic, 197 patients (36.27%), followed by malignant, 106 (19.48%), corrosive ingestion, 101 (18.56%), post sclerotherapy, 46 (8.46%), post surgical, 40 (7.35%), webs, 28 (5.15%), rings, 20 (3.68%), post radiation, 5 (0.92%), prolonged NG intubation, 1 (0.18%). Savary Gilliard dilators were used in 504 patients (92.64%), malloney in 37 (6.080%) and Eder Puestow in 3 (0.55%). Mean dilatation sessions were 2.34±5.75 per patient. Mean age was 45.90±21.74 (range 1-95 years). Successful outcome was seen in 526 patients (96.69%). While failure to dilate in 13 patient (2.38%). The only complication seen in our patients was perforation in 5 (0.91%).

In conclusion, peptic malignant and caustic strictures are the common type of strictures seen in our study and that endoscopic dilatation is a safe and effective method of treatment for all types of strictures with a low complication rate.

INTRODUCTION

Dilatation of oesophageal strictures is a common procedure performed by gastroenterologists to treat esophageal narrowing and relieve dysphagia with relatively low complication rate of less than 1%. With the availability of modern-age polyvinyl tapered dilators and hydrostatic balloons in addition to mercury weighted bougies and metal dilators, we now have a large menu of equipment and techniques available to treat esophageal stenoses[1].

Strictures of esophagus may be benign or malignant. Benign esophageal strictures include peptic strictures, and those due to corrosive ingestion, surgery, sclerotherapy, radiation, rings, webs, or prolonged N/G intubation. Malignant strictures are due to squamous cell carcinoma in upper and middle 1/3rd and adenocarcinoma in lower 1/3rd. Occasionally lymphoma or involvement by extrinsic tumors may lead to esophageal stenosis. There is scant data on the relative frequency of various strictures encountered in our country and the safety of endoscopic treatment of such strictures[2,3].

The purpose of this study was to assess the relative frequency of the various types of esophageal strictures presenting to the GI Unit of Shaikh Zayed Postgradudate Medical Institute and to determine the safety of esophageal dilatation in our unit.

PATIENTS & METHODS

This study is based on the retrospective analysis of 544 patients who underwent endoscopic dilatation of esophageal strictures in the department of Gastroenterology at the Shaikh Zayed Hospital, Lahore during 15 years from October 1986 till

September 2001. The detail of the patients and the endoscopic procedures performed was obtained from the records of the endoscopy suite at the Shaikh Zayed Hospital. Patients with achalasia cardia were excluded. All patients were evaluated with detailed history and physical examination, contrast radiography and upper G.I. Endoscopy. Dilatation was performed mainly with Savary Gilliard Wire Guided Dilators while in some patients Malloney and Eder Puestow Dilators were used. Flourosocopy guidance was used if indicated by clinical situation[4].

RESULTS

Detail of patients and the endoscopic procedures performed is given in Table-1.

The etiology of the esophageal strictures, sex distribution in each etiology and total number of procedures performed in each group is given in Table-2.

Savary Gilliard Wire Guided Dilator was used in 504 patients (92.64%), while Malloney in 37 (6.80%), and Eder Puestow in 3 (0.55%).

Successful outcome was seen in 526 patients (96.69%). Dilatation failed due to long and narrow nature of the stricture in 13 patients (2.38%). The only complication seen in our study was perforation in 5 patients (0.91%).

Table 1:

Total number of patients	544
Males:	273 (50.18%)
Females	271 (49.82%)
Mean age	45.90 ± 21.74
Total number of procedures	1597
Mean number of dilatation sessions per patient	2.34 ± 5.75

Table 2:

Etiology	*Total number (%)*	*Sex Distribution*	*No. of Dilatation Sessions*
Peptic	197 (36.21)	M-109, F-88	332
Malignant	106 (19.48)	M-58, F-48	137
Corrosive	101 (18.56)	M-46, F-55	632
Post Sclerotherpy	46 (8.45)	M-21, F-25	144
Post Surgical	40 (7.35)	M-19, F-21	228
Post Radiation	5 (0.91)	M-2, F-3	29
Webs	28 (5.14)	M-7, F-21	44
Rings	20 (3.67)	M-11, F-9	24
Prolonged N/G	1 (0.18)	M-0, F-1	27

DISCUSSION

Peptic strictures are the commonest cause of esophageal narrowing in our study, like in most reported series[5]. Surprisingly, malignant stricture is the second commonest cause which is largely due to large number of referred cases from North West Frontier Province of Pakistan & also patients belonging to Afghanistan where the incidence of malignant esophageal disease is higher than in other areas[6]. The free availability of corrosives and ignorance of parents to keep these products away from the reach of children accounts for a large number of corrosive strictures referred to us for dilatation. Most of these are children as evident from our study. These patients also require many sessions of endoscopic dilatations and in our study largest number of procedures (n=632) were carried out in this group of patients. Strictures are usually very tight and long with complication and failure rates being higher in this group of patients[7].

With the free availability of endoscopic variceal sclerotherapy the number of post sclerotherapy strictures is rising[8]. More and more patients are being referred to surgeons for esophageal strictures and cases of post-surgical strictures are also rising especially during the learning curve of surgeon for esophageal surgery[9].

It is important to emphasize the importance of preventive treatment for esophageal strictures. GERD should be treated aggressively[10,11]. Endoscopic variceal band ligation and better technique for sclerotherapy should go a long way to prevent post sclerotherapy strictures[12,13]. Corrosives should carry warning labels of poisonous nature of its contents and public awareness programmes should be started through newspapers and electronic media to ensure that such dangerous products are kept away from the reach of children[14]. Excessive dose of radiation above 3500 cGy should be avoided[15] and surgery for esophagus

be carried out only by experienced surgeons to prevent post operative strictures.

In conclusion, in our experience, endoscopic dilatation of esophageal strictures is a safe and effective method of treatment for all types of strictures with a low complication rate. Preventive measures and even legislation should be drafted to prevent peptic, corrosive and iatrogenic causes of esophageal strictures.

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The Authors:

Altaf Alam,
Associate Professor
Department of Gastroenterology,
Shaikh Zayed Hospital, Lahore.

Arshad Kamal Butt,
Assistant Professor
Department of Gastroenterology,
Shaikh Zayed Hospital, Lahore.

Farzana Shafqat,
Senior Registrar
Department of Gastroenterology,
Shaikh Zayed Hospital, Lahore.

Anwaar A. Khan,
Professor
Department of Gastroenterology,
Shaikh Zayed Hospital, Lahore.

S. Waqar H. Shah,
Medical Officer
Department of Gastroenterology,
Shaikh Zayed Hospital, Lahore.

Kashif Malik,
Trainee Registrar
Department of Gastroenterology,
Shaikh Zayed Hospital, Lahore.

Shahzad Sarwar,
Trainee Registrar
Department of Gastroenterology,
Shaikh Zayed Hospital, Lahore.

Johar Amin,
Trainee Registrar
Department of Gastroenterology,
Shaikh Zayed Hospital, Lahore.

Aamina Hassan
Elective Student
Aga Khan University
Karachi.

Address for Correspondence:

Altaf Alam,
Associate Professor
Department of Gastroenterology,
Shaikh Zayed Hospital, Lahore.