

Experience of Management of Stricture Oesophagus

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A two and a half year study from January 2000 to June 2002 regarding the management of oesophageal stricture was carried out at West Surgical Ward of Mayo Hospital, Lahore and Surgical Unit-I of Sir Ganga Ram Hospital, Lahore. The study comprised of 20 patients. All the patients underwent exploratory laparotomy. Forty five percent of the patients were male. 35-40% of the total patients were in the age group between 16-31 years. Seventy five percent of our patients underwent transhiatal oesophagectomy and in 20% feeding gastrostomy was done as the malignancy was advanced and inoperable. Majority of our patients were followed up for 6 months to one year. There was no perioperative and immediate postoperative mortality in our study. Twenty percent of our patients who had inoperable malignant stricture died within a few months of their exploration. Our series showed that transhiatal oesophagectomy produced good results in terms of safety and oncological adequacy in moderately advanced tumours and benign lesions. It also holds promise of lesser complications.

Key words: Benign oesophageal strictures, malignant oesophageal stricture, transhiatal oesophagectomy.

Caustic injury and malignancies are the two common causes of oesophageal strictures. For the malignant strictures, surgical resection is the only treatment modality consistently associated with long-term survival. Resectional therapy for cancer of the oesophagus was first conceived by Bilroth in 1871 but it was Czerny in 1877 who performed the first successful resection of a cervical oesophageal tumour. In 1908 Voelckler resected a tumour at cardia and performed oesophagogastric anastomosis. Adams & Phemister introduced left thoracic approach for resection. Lewis in 1946 and Tanner in 1947 described a two-stage procedure involving right thoracotomy. A third cervical phase was added by McKeown in 1962. Lilienthal in 1921 performed excision by extrapleural approach and in 1933 Grey-Turner performed first cervicoabdominal pull through procedure avoiding thoracotomy. Abdominocervical oesophagectomy without thoracotomy underwent renaissance following reports by Kirkin 1974 and Orringer and Sloan in 1978. Even in patients not cured of their condition comparative studies have shown that resection offers the best form of palliation with restorations of normal swallowing in more than 90% of patients. Oesophageal stricture formation is a common late consequence of caustic injuries¹. Surgical intervention is indicated when there is a complete stenosis with failed attempts at dilatation, there is a marked irregularity and pocketing on barium swallow or patient is unwilling or unable to undergo prolonged periods of dilatation^{2,3}. Stomach, jejunum and colon are the organs used to replace oesophagus through either posterior mediastinum or retrosternal routes in cases of resection either for benign or malignant lesions. For tumours below carinae prefer either enblock resection for cure or a transhiatal removal from palliation^{4,5}. The aim of the study is to describe our experience of transhiatal oesophagectomy both in benign lesions and moderately advanced tumours

in terms of safety, oncological adequacy and holding a promise of lesser respiratory complications & early return to normal daily activities.

Materials and methods

This prospective study consisted of 20 patients who were admitted with signs & symptoms of oesophageal stricture in the West Surgical Ward of Mayo Hospital and Surgical Unit-I of Sir Ganga Ram Hospital, Lahore from January 2000 to June 2002. A detailed history & clinical examination was done in every case. Dysphagia and weight loss were the most common symptoms at the time of diagnosis. Preoperatively all patients underwent Barium swallow studies and upper G.I. endoscopy coupled with biopsy. All our patients underwent pulmonary function tests and a few of them had their echocardiography for accurate information on ejection fraction and myocardial blood flow. All patients had their nutritional assessment done before surgery. In nine patients who were severely malnourished a feeding jejunostomy was done to allow for postoperative nutritional support. In all patients who underwent resection, jejunostomy was done to allow for preoperative nutritional support. In all patients who underwent resection, jejunostomy tube was placed at the exploration and feeding started on the third or fourth postoperative day. Four patients on exploration had advanced malignancy, only gastrostomy was done for them. Fifteen patients underwent Transhiatal oesophageal resection and one patient who had a cervical lesion underwent pharyngo-oesophagogastric resection with stomach pullup. All our patients after exploration received third generation cephalosporin. Postoperative course of each patient was recorded. In cases of malignancies on discharge patients were referred to Department of Oncology for Adjuvant Therapy. Patients stayed in the hospital for fifteen days on

Experience of Management of Stricture Oesophagus

an average. All patients were followed up at one week, one month and at three months interval after their intervention.

Results

The age incidence of the patients in this study varied from 16-90 years. Highest number of patients were in the age group 20-29 years. Table 2 depicts the distribution of site of oesophageal stricture. Table 3 shows the incidence of benign and malignant lesions. Table 4 shows the distribution of patients with carcinoma oesophagus according to the stage of malignancy.

Table 1. Age incidence of the patients

Age group	Benign lesions	Malignant lesions	Total	%age
11-20 years	2	-	2	10
21-30 years	5	-	5	25
31-40 years	1	1	2	10
41-50 years	1	2	3	15
51-60 years	-	2	2	10
61-70 years	-	4	4	20
71-80 years	-	1	1	5
81-90 years	1	1	1	5
Total	9	11	20	100

Table 2. Level of the stricture

Level of stricture	n=	%age
Upper	2	10
Middle	4	20
Lower	14	70
Total	20	100

Table 3. Distribution of patients according to type of lesions.

Type of lesion	n=	%age
Benign	9	45
Malignant	11	55
Total	20	100

Table 4. Distribution of patients according to stage of malignancy.

Stage of malignancy	n=	%age
Stage I (T1NoMo)	1	9.5
Stage II (T2N1Mo)	4	36
Stage III (T3N1Mo)	2	18
Stage III(T4N1Mo)	3	27
Stage IV	1	9.5
Total:	11	100

Table 5 depicts various operative procedures performed in our patients.

Table 5. Operative procedure performed.

Operative procedure	n=	%age
Pharyngo-oesophagogastronomy (Stage I)	1	5
Feeding gastrostomy (Stage III&IV)	4	20
Transhiatal oesophagectomy with oesophagojejunostomy (Stage III & benign oesophageal stricture)	2	10
Transhiatal oesophagectomy with gastric tube formation (Stage IIB & benign stricture)	11	55
Transhiatal oesophagectomy with colonic interposition (Stage III & benign stricture)	2	10
Total	20	100

Table 6 shows the postoperative complications encountered.

Table 6. Major complications

Complications	n=	%age
Pneumothorax	5	25
Anastomotic leak	3	15
Anastomotic stricture	5	25
Wound infection	4	20

Discussion

Swallowing of the caustic substances causes both an acute and chronic injury. During the chronic phase the focus is on the treatment of strictures and disturbances in pharyngeal swallowing. Of the patients who develop strictures 60% do so within one month and 80% within two months. If dysphagia does not develop within 8 months it is unlikely that a stricture will occur^{1,3}. In the past surgeons would wait until the appearance of a stricture before starting treatment. Currently dilatations are started soon after injury with the aim of preserving the oesophageal lumen by removing the adhesions that occurred in the injured segment. This approach, however is controversial in that dilatations can traumatize the oesophagus causing bleeding and perforation and there are data indicating that excessive dilatations cause increased fibrosis secondary to added trauma. Length of time the surgeon should persist with dilatations before considering oesophageal resection is problematic. An adequate lumen should be reestablished within 6 months to one year with progressively longer intervals between dilatations. Indications for surgical intervention are complete stenosis, development of severe unwillingness to undergo prolonged dilatations. Currently stomach, jejunum and colon are used to replace oesophagus through

posterior mediastinum. Retrosternal route is chosen when there is extensive fibrosis in posterior mediastinum. In our series we used stomach in most of our cases to replace. In four cases where stomach itself was diseased and gastrectomy had to be done alongwith oesophageal resection, colon or jejunum were used. Results of oesophageal resection through transhiatal route for benign strictures in our series were excellent. Two patients required postoperative dilatation for anastomotic stricture and one patient who developed a anastomotic leak was successfully managed conservatively.

Strategies for the treatment of oesophageal carcinoma limit the role of surgery to removing the primary tumour, with the hope that adjuvant therapy will increase cure rates by destroying systemic disease. Lymph node metastasis are considered simply markers of systemic disease⁶. The systematic removal of involved nodes is not considered beneficial. The belief that removal of primary tumour by transhiatal route results in the same survival rate as a more extensive enblock resection is based on the same kind of reasoning⁷. However, data from various studies has shown that enblock resection resulted in significantly better 5 years survival than transhiatal approach. A clear survival advantage is observed in patients with early lesions following enblock oesophagectomy. This was less for intermediate and late lesions. Most of our patients in this series presented in a intermediate or late stage and that is why we opted for transhiatal approach which is obviously fraught with lesser complications as compared to enblock resection which needed a thoracotomy being done^{8,9}. Our results for tumour surgery are comparable to studies conducted in other parts of the world^{10,11}. Our experience with transhiatal oesophagectomy in moderately advanced tumours in terms of safety, oncological adequacy and lesser complication rates has been quite encouraging. However, the question as to which procedure, an enblock

resection or a transhiatal approach in patients with intermediate disease is the best should be resolved by a prospective randomized study.

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