# Oesophageal Dilatation as Palliation for Irresectable Carcinoma Oesophagus

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**Background:** The primary therapeutic goals in patients with advanced oesophageal malignancy are the re-introduction of an enteral diet and early discharge. The endoscopic dilation has been proposed as an alternative technique for palliation in patients not suitable for surgery. **Aim:** To review our experience with oesophageal dilation for the palliation of malignant oesphageal obstruction. **Methodology:** A retrospective review was conducted of the notes of all patients who underwent palliative oesophageal dilation in our unit. **Result:** 100 patients (age range 30-90years) underwent oesophageal dilation for malignant oesophageal obstruction 48% of patients had obstruction at lower one third of esophagus. Median survival was 6 weeks (range 1week to 03 months). Successful dilation was possible in 70% of cases. During follow up 20% returned to solid diet, 50% required a soft diet and 30% were unable to tolerate any enteral nutrition. **Conclusion:** The use of oesophageal dilation achieves, good palliation allowing early discharge from hospital, re-introduction of an enteral diet.
**Key words:** Ca oesophagus, oesophageal dilatation, palliation.

The history of endoscopy started in 1868 with the Kassmaul, who intubated a sword swallower's stomach via oesophagus with a 13mm hollow metal tube.

This maneuver proved that the oral cavity, oesophagus, stomach could be intubated with one rigid instrument. Mikulicz added one crucial aspect to the tube, distal light to illuminate the oesophagus and stomach and he was able to visualize gastric motility and view probable malignancies. The fiber optic endoscope was introduced in 1958. This instrument allowed more patient comfort as well as greater therapeutic possibilities[1].

Carcinoma of the esophagus, be it squamous cell carcinoma or Adeno carcinoma, continues to be lethal, with minimal hope of total cure. At diagnosis, fewer than 5% of patients have localized disease without regional node involvement. Another 50% of patients have loco regional disease. It is unlikely that more than 10% of patients presenting with carcinoma of esophagus will be cured of their tumor. For the rest, the most one can hope for its palliation of symptoms. The aim of palliation in the group with advanced disease is to improve the quality of the limited life remaining for the patient[2].

Regardless of the palliative technique used the morbidity and mortality of any procedure is significant because of the advanced stage of the disease and the poor nutritional status of most patients. The selection of the appropriate palliative technique should be modulated by several factors, including the experience of the surgeon, the expected survival time of the patient facilities available, costs involve and the general condition of the patient at the time of the intervention. Palliation of obstructing or fistulizing carcinomas of the esophagus is not always easy. One cannot expect the median survival of these patients to be greater than 3 to 6 months[3].

There are multiple treatment modalities available for the irresectible carcinoma esophagus i.e. photodynamic therapy[26], stents[24] oesophageal bypasses[17], thermal laser ablation[4], brachytherapy[5], esophageal dilation, radiotherapy[6], injection therapy[7] and chemo therapy[8]. The surgeon must be cautious in choosing the procedure that affords the patient adequate palliation is cost effective with minimal morbidity and a short in hospital stay[9].

Various studies favor the use of rigid or flexible oesophagoscopy for oesophageal foreign body extraction, biopsies of suspected lesion or tumors and structural disorders requiring dilatation[10,11,12,13]. Oesophageal dilation should be reserved for patients who are considered to have an extremely short life span (4 weeks or less) and are unable to swallow saliva, as a very short term measure to relieve dysphagia[14]. The present retrospective audit was undertaken to provide date regarding the use of rigid oesophagoscopy dilation for irresectable carcinoma esophagus in our setting.

**Material & methods:**

The audit was undertaken at the cardiothoracic surgery unit of Lady Reading Hospital Peshawar. From January 2001 to December 2004, hospital records of all patients who had undergone esophageal dilation during the study period were obtained from a computerized database, reviewed and analyzed for the variables of study.

Data was analyzed for qualitative and quantitative variables and descriptive statistics were calculated. All patients had been considered unresectable for surgical intervention prior to referral and were unable to tolerate enteral nutrition. All patients gave informed consent for the intervention. Oesophageal dilation was performed under general anesthesia using induction agent and a muscle relaxant. Endotracheal intubation was done in all patients. A therapeutic rigid endoscope was used for all procedures (12x16x50cm) KARL STORZ. The stricture was negotiated with Chevalier Jackson dilators and dilated up to 40 FR dilator. After recovery from the procedure the patients underwent postoperative pulse, temperature record, clinical examination and chest x-ray and where needed contrast studies to exclude perforations and to

confirm oesophgeal patency, prior to commencing on oral diet. Follow up data was obtained by reviewing the patients at outpatient department and contacting the referring physician. Information obtained included the occurrence of complications, and need for re-intervention, the type of diet that was tolerated and the duration of survival. Our inclusion criteria were the patients with irresectable, inoperable carcinoma oesophagus and the patients with stricture less than 10cm. were included in this study. The patients with stomach involvement, non-negotiable stricture and more than 10cm oesophageal strictures were excluded.

**Results:**

A total of 100 cases with irresectable carcinoma esophagus had undergone esophageal dilatation performed during the 03 years period of study. Eighty one (81%) patients were admitted through the OPD, 10 % patients through various medical units of the hospital and (09%) through the casualty department. The district wise distribution of patients showed 40 % from Peshawar. 10% from Mardan, 10% Dir & Swat & 5% for other areas of NWFP. There were 35 patients (35%) from Afghanistan.

The regional distribution is shown in Table I. There were 60 male and 40 males (M.F. Rates 1.5:1) the ages of patients ranged from 30 years–90 years. Age distribution (Table II) and the distribution of the site of carcinoma oesophagus (Table III). 80% of the patient had squamous cell carcinoma, while 20% had adenocarcinoma oesophagus (Table IV). Successful dilatation was observed in 70% of patients with irresectable esophageal carcinoma. Rigid endoscopy and dilation were performed under general anesthesia with endotracheal intubation. The patients with successful dilatations were able to resume a soft or regular diet after dilation. Recurrence of dysphagia occurred in mean 11.5 days and the procedure had to be repeated at interval of four weeks.

The remaining unsuccessful cases of oesophageal dilation with unresectable carcinoma oesophagus required multiple attempts or had undergone feeding jejunostomy. After oesophageal dilation 20 patients (20%) were able to tolerate solid food, 50(50%) could take a soft diet and 30% were unable to tolerate any enteral nutrition. Therefore in 70% the patients were allowed the resumption of solid/ soft diet with oesophageal dilation.

Table I: Regional distribution of patients (n=100)

| Region | =n | %age |
|---|---|---|
| NWFP Pakistan | 65 | 65 |
| Peshawar | 40 | 40 |
| Dir & Swat | 10 | 10 |
| Mardan | 10 | 10 |
| Others | 05 | 05 |
| Afghanistan | 35 | 35 |

Morbidity observed in the study was due to perforation during rigid oesophagascopy observed in 05 cases. Out of these 5 patients 2 patients with unresectable esophageal cancer underwent esophageal intubation with Mosseau Barbin Indian Tubes, while the remaining was treated with conservative management and feeding jejunostomy. The mortality rate was 2%.

Table II: Age distribution of patients (n=100)

| Age group (years) | =n | %age |
|---|---|---|
| 30-40 | 05 | 05 |
| 41-50 | 09 | 09 |
| 51-60 | 35 | 35 |
| 61-70 | 40 | 40 |
| 71-80 | 10 | 10 |
| 81-90 | 01 | 01 |

Table III: Distribution of site of ca esophagus patient (n=100)

| Site | =n | %age |
|---|---|---|
| Upper on third | 22 | 22 |
| Middle one third | 30 | 30 |
| Lower on third | 48 | 48 |

Table IV: Etiologies of cancer esophagus patient (n=100)

| Histology | =n | %age |
|---|---|---|
| Squamous cell carcinoma | 80 | 80 |
| Adenocarcinoma | 20 | 20 |

**Discussion:**

This study demonstrates that the endoscopic dilatation achieves excellent palliation in up to 70% of patients with malignant oesophageal squamous cell carcinoma and adeno carcinoma who were unsuitable for surgery [15]. If left untreated, patients are unable to take oral nutrition, require nasogastric tube insertion and rapidly deteriorate. A surgical gastroenterostomy has a high success rate in bypassing the obstruction, but is associated with a morbidity of up to 40%, and occasional mortality[16,17] whilst extending the hospital stay by at least 2 weeks[16]. The median delay between surgery and the resumption of an enteral diet can be as long as 10 days[18].

The recent availability of endoscopic enteral stents has allowed the rapid palliation of symptoms of gastro duodenal obstruction without the need for surgery or for general anaesthetic[19]. Rigid oesophagoscopy has proved an invaluable tool for a variety of esophageal disease presenting as dysphagia[20,21], particularly foreign bodies and conditions requiring biopsies and dilatations[22,23]. The present audit documents 100 cases of un resectable esophageal carcinoma underwent rigid oesophagoscopy for palliative dilation over 03 years period at the Lady Reading hospital Peshawar, Compared to many other regions of the world, this indicates an increased rate of patient with unresectable carcinoma esophagus [15]. Although the use of esophageal dilation with rigid oesophagoscope in cases of unresectable carcinoma were widely divergent from other reported studies, where the use of photodynamic therapy, stents, laser ablation, brachytherpy are extensively used according to the patients disease pattern[24,25,26]. In our setting we don't have the facilities for photodynamic therapy nor stents. Both types of stents i.e. self expandable and silicone or plastic tubes

are not available. The modalities for laser ablation, brachytherapy, ethanol injection, electro coagulation are not available. As observed in the study most of our patients were in older age groups i.e. 85%. Due to their moribund medical condition, they were unable to undergo esophageal by pass surgery[17]. Previously we used to do oesophagel intubations for unresectable carcinoma oesophgus but nowadays these plastic tubes are not available in the market, these tubes get blocked by food or tumor over growth and subsequently required dilatation. Rigid oesophageal dilation for unresectable carcinoma oesophagus is the only palliative option left in our setting. This procedure of oesophageal dilatation was fairly successful in 70% cases, achieving successful dilation[31]. The patients have started taking liquid and semisolid feeds. After the procedure recurrence of dysphagia occurred in a mean 11.5 days and the procedure had to be repeated at interval of four weeks[27].

The remaining unsuccessful cases of esophageal dilation with unresectable carcinoma oesophagus required multiple attempts or had undergone feeding jejunostomy. Morbidity associated with the procedure was related to perforations occurring in 5(5%) cases. All of those were adults with oesophageal carcinoma, a known risk factor for endoscopic oesophageal dilation[27,28,29]. Our morbidity rate was in keeping with that reported by others. The mortality of 02 cases (2%) in this study was an indirect consequence of the endoscopic procedure, being the result of septicemia acquired in the postoperative period by these 02 complicated cases that later on died.

**Conclusion:**

In conclusion, the e ıdoscopic dilatation relieves malignant gastro esophageal ‹ bstruction in the majority of patients, allowing discharge from hospital and the resumption of enteral nutrition. Therefore, this technique should be considered in all patients who present with malignant esophageal obstruction, particularly in our setting where the more modern and sophisticated means like stents and Lasers are either not available or non affordable.

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