

Endoscopic Placement of Esophageal Prostheses for Inoperable Carcinoma of Esophagus

Pages with reference to book, From 308 To 309

Huma Qureshi (PMRC Research Centre, Jinnah Postgraduate Medical College, Karachi.)

Mumtaz Maher (Department of Surgery, Jinnah Postgraduate Medical College, Karachi.)

Introduction

In Pakistan, carcinoma of the esophagus ranks as the 5th commonest tumour in females and 9th in males¹. At our centre we see about 20-25 cases of malignant dysphagia each year. In most, the etiology is squamous cell carcinoma with only 2% occurrence of adenocarcinoma secondary to Barrett's esophagus². Though surgical results with transhiatal esophagectomy have improved over the past decade with better resection rate and reduced in hospital mortality; but surgery most of the time provides palliation and patients ultimately die of the disease^{3,4}. For sick patients with advanced disease, recanalization of the esophagus or intubation is the treatment option. The easiest way to produce a satisfactory lumen is through intubation with a plastic Atkinson-type tube, using ultrasound guidance under intravenous sedation⁵. Esophageal perforation as a result of dilatation of esophagus prior to protheses placement is a major complication^{6,7}. Other options are self expanding metal stent and Nd-YAG laser, argon beam photocoagulation and injection of absolute alcohol for recanalization of esophagus^{8,9}.

We present our experience of esophageal intubation using Wilson and Cook's prostheses which is a modified Atkinson prostheses.

Patients, Methods and Results

Over the last 2 years, 52 patients were endoscoped for dysphagia; of these 49 had histopathologically proven malignant obstruction. Majority of these cases were offered surgery but those with metastasis or locally advanced disease on CT scan, with low expected survival were offered endoscopic placement of prostheses.

Prosthesis was placed in 10 cases. Majority of the cases belonged to 5th decade of life. Growth was located in the mid esophagus in 6 cases and lower end in 4 cases. Out of the 10 cases there were 7 males and 3 females. In 3 cases the prostheses were placed at surgery as the tumour was found to be advanced at laparotomy. The prostheses were placed endoscopically using surgical wound for guidance and correct positioning of the prosthesis. In the other 7 cases endoscopic placement of prostheses was done in a fasting state in left lateral position under I.V ,medazolam sedation. Length of the lesion was measured endoscopically and esophageal dilatation was done using standard technique with Savary Gilliard dilators. Dilatation was done upto size 14. Following dilatation position of the patient was changed to supine and the neck extended to facilitate introduction of the prostheses. Two loops of silk were threaded through the 2 holes in the prostheses to facilitate retraction or correct positioning of the prostheses. Wilson and Cook's esophageal prostheses approximately 2 cms longer than the measured length of the lesion, was mounted over the prostheses introducer and pushed using a prostheses pusher. Using the markings on the pusher the position of the prostheses was confirmed. The assembly of introducer along with the guide wire were removed leaving the pusher inside. Endoscope was introduced through the lumen of the pusher and position of prostheses checked and adjusted either by further pushing the prostheses inside or pulling it out using the silk threads. To remove the pusher, an anti-clock twist was applied to the pusher to dislodge the pusher from the prostheses. Endoscope and

pusher were then removed.

Following the procedure an X-ray chest was done to confirm the position of the prostheses and see any sign of pneumo-mediastinitis. Feeding was started 2 hours later.

Anti-reflux measures were strictly observed in patients where the prostheses crossed the gastroesophageal junction, to avoid aspiration. Proper mastication of food and use of blenderized diet was advised. Patients were asked to flush the lumen of the prostheses by drinking water and effervescent drinks after meals.

One patient died from aspiration 24 hours after the placement of prosthesis for tumour at the lower end of esophagus while all others were discharged taking an adequate blenderized diet. Two cases with adenocarcinoma of the lower end of esophagus showed tumour encroachment of the gastric end of the prostheses at 9 months follow-up. Ethanol injection was given to produce tumour necrosis which gave transient relief.

Comments

The present study demonstrated satisfactory results of palliative intubation for inoperable esophageal carcinoma using Wilson and Cook's plastic prostheses. This concept is almost 7 decades old¹⁰. The procedural mortality in intubation using laparotomy¹¹ and pull through technique¹² is around 40% and 18% respectively. Since the use of fiberoptic endoscopes for the placement of prostheses, there has been a remarkable decrease in post operative mortality; but the survival figures remain unaltered^{11,13}. Various instruments like Nottingham, Duman Gilliard and Savary Gilliards have been devised to introduce prosthesis like Medoc's, Atkinson's, Celestin's and Haring and Cook's⁷ with overall similar results. One study compared the results of plastic prostheses with metal stents and showed migration of plastic stent in 24% versus none in metal stent¹⁴. Self expandable metal stents require less dilatation and have no chance of migration but once placed they cannot be repositioned or removed. Tumour ingrowth is another problem peculiar to metal stents which is dealt with laser ablation. High cost of metal stents and requirement of laser restrict the use of this therapy; leaving plastic stents as the alternative for relieving dysphagia in cases with inoperable carcinoma of the esophagus.

References

1. Mehdi I. Frequency of gastrointestinal malignant tumours at a teaching hospital in Karachi. J. Pak. Med. Assoc., 1998;48:14-17.
2. Naqvi SAM. Frequency of Barrett's esophagus according to new proposed definition. M. Phil thesis, Karachi University, 1995.
3. Maher M, Ali A, Qureshi H. et al. Transhiatal Oesophagectomy for carcinoma Oesophagus an early experience. J. Pak. Med. Assoc., 1991 ;4 1:129-31.
4. Muller JM, Erasmi H, Stelzner M, et al. Surgical therapy of esophageal carcinoma. Br. J. Surg., 1990;77:845-57.
5. Mason R. Palliation of esophageal cancer in Current Medical literature -Gastroenterology, 1997;1 12:95-96.
6. Atkinson M, Ferguson R, Parker GC. Tube introducer and modified Celestin tube for use in Palliative intubation of esophagogastric neoplasma at fiberoptic endoscopy. Gut., 1978;19:669-71.
7. Gasparri G, Casallegno PA, Camandona M, et al. Endoscopic insertion of 248 prostheses in inoperable carcinoma of the esophagus and cardia: short term and long term results. Gastrointest. Endoscopy, 1987;33:354-56.
8. Mason RC, Bright N, McColl T. Palliation of malignant dysphagia with laser therapy: predictability

of results. *Br. J. Surg.*, 1991,78: 1346-47.

9. Brown SG, Hawes R, Matthewson, et al. Endoscopic laser palliation for advanced esophageal dysphagia. *Gut.*, 1987,28:799-809.

10. Souttar HS. A method of intubating the esophagus for malignant stricture. *Br. Med. J.*, 1924;1:782-83.

11. Watson A. Therapeutic options and patient selection in the management of esophageal carcinoma. In: *Disorders of the oesophagus; advances and controversies*. London: Pitman, 1984, pp. 167-86.

12. Saunders NR. The celestin tube in the palliation of carcinoma of the esophagus and cardia. *Br. J. Surg.*, 1979;66:419-21.

13. Lishman AH, Dellipiani AW, Devlin HB. the insertion of esophagogastric tubes in malignant esophageal strictures: endoscopy or surgery? *Br. J. Surg.*, 1980;67:257-59.

14. Knyrin K, Wagner Hi, Bethge N, et al. A controlled trial of an expansile metal stent for palliation of esophageal obstruction due to inoperable cancer. *N. Eng. J. Med.*, 1993;329:1302-6.