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**Curative Surgery In The  
Treatment Of Advanced  
Cancer Of The Hypopharynx  
And Cervical Oesophagus**

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**Abstract**

*Our experience with four cases of advanced squamous cell carcinoma of the hypopharynx and cervical oesophagus is discussed. The outlook for cure in such cases is very gloomy, but even if a cure is not possible, meaningful operative palliation can be achieved. All four cases were treated with total laryngo-pharyngo-oesophagectomy with gastric pull-up reconstruction. Although the free jejunal interposition graft (FJIG) gives better results with much less morbidity and mortality rates, stomach was used for reconstruction because we do not have the required microvascular surgical expertise. Two of our patients are alive 9 months and 6 months respec-*

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*tively after surgery and have gained 8 kg. and 5 kg. in weight respectively. They do not have any evidence of recurrence so far, One patient died on the 9th post-operative day following a breakdown of the pharyngo-gastric anastomosis whereas one patient died on the 7th post operative day from the Adult Respiratory Distress Syndrome (ARDS).*

**Key Words:** *Cancer of hypopharynx and cervical oesophagus – total laryngo-pharyngo-oesophagectomy with gastric pull-up reconstruction.*

## **Introduction**

Malignant tumours of the hypopharynx and cervical oesophagus have little chance of cure or palliation with radiotherapy. Surgery is the primary treatment of choice with 3 - 5 years cure rates of 25-30%<sup>1,2,3</sup>. Meaningful palliation can be achieved in more than 70% of cases<sup>1,2,4</sup>.

Since 1877, when Czerny<sup>5</sup> first performed a cervical oesophagectomy, pharyngo-oesophageal reconstruction has evolved through basically four stages<sup>6</sup>. Initially skin grafts were used but were associated with a high degree of stenosis and sloughing. These were followed by pedicled abdominal visceral grafts<sup>7</sup>. These were associated with significant morbidity; also the length of the pedicled graft to be transferred to the head and neck area limited the procedure's applicability. In 1959 Seidenberg et al<sup>8</sup> introduced the concept of a free jejunal graft for reconstruction of the pharyngo-oesophagus, but the results were unpredictable because microvascular techniques were not well developed. During the last 10 years, progress in the field of microvascular surgery has altered the outlook completely, with several authors reporting successful reconstructions using the free jej interposition grafts (FJIG)<sup>9,10,11</sup>.

## **Material and Methods**

Four patients with advanced squamous cell carcinoma of the hypopharynx and cervical oesophagus were operated on between February and August 1990. All four patients were male with ages ranging from 18 to 50 years. All had extensive growths involving the postero-lateral hypo-

pharyngeal walls, postcricoid region and upper oesophagus. All had radiotherapy (7000 rads) pre-operatively which had failed. There were no palpable lymph nodes in the neck in any of the patients. A total laryngo-pharyngo-oesophagectomy with gastric pull-up reconstruction was carried out. Two teams of surgeons were involved. The E.N.T. team mobilised the larynx, pharynx and cervical oesophagus whereas the cardiothoracic surgeons did a thoraco-laparotomy to mobilise the stomach and oesophagus. A temporary feeding jejunostomy was created. Pyloroplasty was done in all cases. A Gastrograffin contrast X-ray was done on the 10th postoperative day to observe its passage through the newly created food passage, and if satisfactory, was followed by closing of the feeding jejunostomy, removal of the nasogastric tube and starting of oral feeds.

### **Results**

Our first patient, a male aged 18 years, had very good post-operative recovery and was discharged after three weeks. He comes regularly for follow-up. He has no evidence of recurrence upto now (9 months following surgery) and has gained about 8 kg. in weight.

Our second patient, a male aged 40 years, had a prolonged stay in the hospital because of infection of his thoracotomy wound. He was discharged after 2 months, but has since been re-admitted twice, once for haematemesis and malaena which was due to the development of a duodenal ulcer. The ulcer healed with conservative treatment. The second time he was re-admitted for profuse haemoptysis. Bronchoscopy revealed an ulcer at the carina which was apparently due to trauma caused by inexpert suction of the tracheostome at home. The ulcer was cauterized and he has had no trouble since then. He also has no evidence of recurrence so far (7 months following surgery).

Our third patient was a male aged 50 years. He had a tracheal tear during surgery for which he required a right sided thoracotomy as well. The trachea was repaired and in spite of the extensive surgery including bilateral thoracotomies, he had good post-operative recovery initially. On the 8th post-operative day, he developed persistent vomiting and refused his feeds. At the same time the vomitus started coming out through the tracheostome

as well. He died on the 9th post-operative day because of breakdown of the pharyngo-gastric anastomosis.

Our fourth patient, a male aged 28 years, was doing well in the early post operative period, but developed breathlessness and cyanosis on the 5th post-operative day. He was diagnosed as suffering from the Adult Respiratory Distress Syndrome (A.R.D.S.) and inspite of intensive treatment, died on the 7th post-operative day.

The complications encountered are as follows:-

- (1) Infection of chest wound.
- (2) Duodenal Ulcer.
- (3) Ulcer at the carina causing haemoptysis.
- (4) Tracheal tear.
- (5) Breakdown of pharyngo-gastric anastomosis.
- (6) Adult Respiratory Distress Syndrome.

### **Discussion**

Advanced hypopharyngeal and upper oesophageal malignancy has a gloomy outlook as a whole. There is little chance of cure or palliation with radiotherapy. Extensive surgery including a total laryngo-pharyngo-oesophagectomy gives 3-5 years cure rates of 25- 30%<sup>1,2,3</sup>. Even if a cure is not possible, useful palliation can be achieved in more than 70% of cases<sup>1,2,4</sup>. Free jejunal interposition grafts for reconstruction give the best results but in the absence of micro-vascular surgical expertise, a gastric pull-up reconstruction should be tried. The stomach is preferable to colon because of several factors; (1) Excellent blood supply, (2) Reliable pharyngo-gastric anastomosis, following transposition and (3) Only one anastomosis is required in case of stomach whereas three anastomoses are required in case of colon. But gastric pull-up reconstruction has some limitations. These include the length of the pedicled graft which can be transferred to the head and neck area and the size of the stomach. We had great difficulty in passing the stomach through the posterior mediastinum and thoracic inlet to the neck in one of our patients because of the large size of the stomach.

One important step in the procedure is the separation of the oesophagus from the trachea. This requires careful finger dissection to avoid tear of the posterior tracheal wall.

Multiple staged operations should be avoided whenever possible<sup>12</sup>. The main aim of surgical treatment must be consistent; a rapid reconstruction of the integrity of the alimentary tract combined with as wide a resection of the lesion as possible and avoidance of a permanent gastrostomy.

### **References**

1. Harrison, D.F.N.; (1979). Surgical Management of Hypopharyngeal Cancer. Particular reference to the gastric 'pull-up' operation. Archives of Otolaryngology, 105 : 149 - 152.
2. Silver, C.E.; (1976). Reconstruction after Pharyngo laryngectomy-Oesophagectomy. American Journal of Surgery, 132 : 438 - 443.
3. Som, M.L. and Nussbaum, M.; (1969). Surgical Therapy of Carcinoma of the Hypopharynx and Cervical Oesophagus. Otolaryngologic Clinics of North America, 2 : 631 - 640.
4. Akiyana, H., Hiyma, M. and Miyazono, H.; (1975). Total Oesophageal reconstruction after extraction of the Oesophagus. Annals of Surgery, 182 : 547 - 552.
5. Czerny, V.; (1877) Neue Operationer. Centralbl Chir, 28 : 433 - 434.
6. Surkin, M.I., Lawson, W., Biller, H.F. : (1984). Analysis of the methods of pharyngeal reconstruction. Head Neck Surg; 6 :953 - 970.
7. Bakamjian, V.Y.; (1965). A two-stage method for pharyngo-oesophageal reconstruction with a primary pectoral skin flap. Plast. Reconstr. Surg; 36 : 173 - 184.
8. Seidenberg, B., Rosznak, S.S., Hurwitt, E.S., et al: (1959). Immediate reconstruction of the cervical oesophagus by a revascularized isolated

jejunal segment. *Ann. Surg.*, 149 : 162 - 171.

9. Huguier, M., Gordin, F., Maillard, J.N., et al: (1970). Results of 117 Oesophageal replacements. *Surg. Gynaecol. Obstet.*, 130: 1054 - 1058.

10. Nakamura, T., Inokuchi, K., Sugimachi, K., (1975). Use of revascularized jejunum as a free graft for cervical oesophagus. *Jpn. J. Surg.*, 5 : 92 - 102.

11. Gluckman, J.L., McDonough, J., Donegan, J.O., et al; (1981). The free jejunal graft in head and neck reconstruction. *Laryngoscope*, 91: 1887 - 1895.

(12). Carpenter, III R.J., De Santo, L.W., Devine, K.D. (1979). Reconstruction after total laryngo-pharyngectomy. *Arch. Otolaryngol.*, 105: 417-22.