
PHARYNGO-LARYNGO-ESOPHAGECTOMY WITH STOMACH PULL-UP IN HYPOPHARYNGEAL CARCINOMAS

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Summary

This is a study of fourteen cases presented with hypopharyngeal and upper esophageal tumours that underwent pharyngo-laryngo-esophagectomy with trans-hiatus gastric transposition. PLEGT-with pharyngo gastric anastomosis, done in the period between 1/2/1997 – 2/6/2001 in Alyarmouk Teaching Hospital in Baghdad. Usual complaints of the patients were dysphagia. Some of the patients had stridor that necessitated tracheotomy prior to the operation. Postoperative mortality was 14%, three of the patients developed anastomotic fistulae, all of them responded to surgical treatment, other complications included two cases of pneumothorax, the disease recurred locally in two cases, four cases of wound infection, and four cases of transient hypocalcemia. The mean period of follow up was thirty months, during this period, three patients died, two of them after recurrence of the disease and one due to C.V.A., nevertheless all of them were swallowing satisfactorily, even those who died.

Introduction

Neoplasms involving hypopharynx are relatively uncommon tumours for example, those involving the post-cricoid region ranges about 0.9/100000 in men and 1.1/100000 in women¹.

For many years radiotherapy has been the treatment of choice. Resection of the tumour with reconstruction of the defect

to reestablish the continuity of the G.I.T. for therapeutic and palliative purposes was established using many methods for reconstruction like using flaps or transplantation of viscous like the colon or jejunum or transposition of stomach, however these procedures were preceded by excising the primary tumour².

From the historical point of view Le Quesne and Ranger in 1966 described the procedure by which they brought the stomach to the neck to replace the hypopharynx and the entire esophagus without performing thoracotomy³.

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Patients and Methods

Fourteen patients with hypopharyngeal tumours at different anatomical sites treated in Alyarmouk Hospital for the period between 1/2/1997-2/6/2001 were studied.

All the patients were subjected to full history, physical examination and investigations to assess the local extent of the tumour and presence or absence of local or distant metastasis, and also to assess the fitness for surgery. These investigations included endoscopy, biopsy and radiology including contrast study. No CT or MRI was done because they were unavailable. Hematological investigations were done including liver and renal function tests, total serum protein. Nutritional state assessment was done by measuring the weight, height and body mass index. All patients were presented with dysphagia, weight loss and nine of them had stridor.

Assessment of the tumour site and local extent was done by endoscopy (pharyngo-laryngo-broncho-esophagoscopy) and biopsy of the tumour.

Five of the patients had preoperative radiation. Preoperative management included also a trial to correct the nutritional state of the severely malnourished patients by the available means using N/G feeding with the available high caloric, high protein diets.

Tracheostomy was performed in four of the patients as an emergency procedure due to stridor.

Two teams performed the operation at the same time, one working on the neck by an E.N.T. surgeon and another on the abdomen by a general surgeon. A U-shaped neck incision (Sorenson) with or without a perpendicular extension when as ipsilateral radical neck dissection was needed, separation of larynx and pharynx from the carotid sheath bilaterally and from the prevertebral muscles posteriorly, separation of thyroid lobes with or without hemilobectomy, excision

of the larynx, pharynx and cervical esophagus in one piece, fashioning and exteriorization of trachea. Meanwhile a laparotomy through a midline incision, mobilizing the stomach by dividing the left gastric, left gastroepiploic and short gastric arteries, coucherization of the duodenum with truncal vagotomy, pyloroplasty and widening of the hiatus.

Blunt dissection of the thoracic esophagus was shared by the two surgical teams, the cardia closed, fashioning of a new opening in the fundus to fit and anastomose with the proximal part of pharynx, anaso-duodenal tube was put.

Postoperative chest x-ray was done at the day of operation and the day after routine antibiotics cover, early mobilization and chest physiotherapy performed. Patients were kept on I.V. fluids for the first four days, the tube feeding was started on the fifth day, oral feeding started on the 9th – 11th day.

Postoperative DXRT within one month was given to seven patients.

Results

According to our study, four females were operated upon (28%) and ten males (72%) with M/F ratio of 2.5/1 (Figure 1).

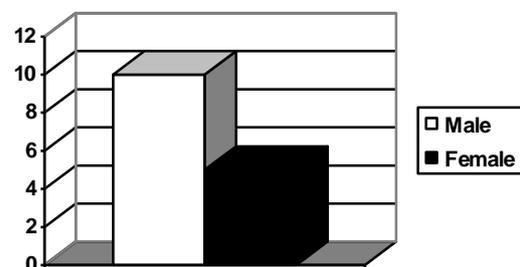


Figure 1. Sex ratio

Patients' ages were between 18-68 years with a mean age of 56 years (Figure 2). From the nutritional point of view four of our patients were severely

malnourished and four were moderately malnourished while six of them were mildly malnourished (Figure 3).

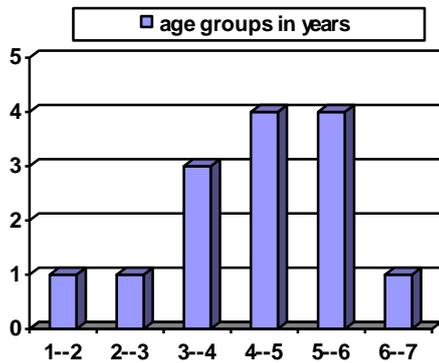


Figure 2. Age incidence

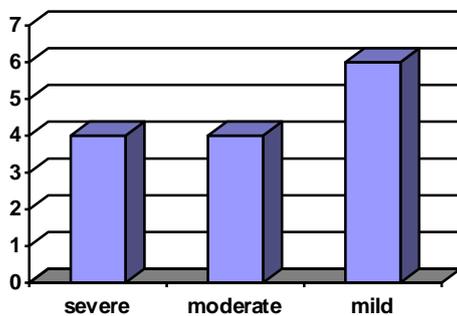


Figure 3. Nutritional status

Operative assessment of the actual site of the tumour were nearly the same like the preoperative sites except in one case

with a postcricoid tumour and upper esophageal extension, posterior tracheal wall involvement was found (Table I).

Site of the tumours	No. of patients
Post. cricoid	6
Post. Cricoid with upper esophageal extension	3
Supra glottis involving left pyriform fossa	1
Supra glottis involving right pyriform fossa	4

Table I. the site of tumours in different patients.

Two postoperative mortalities occurred (Table II), one patient died in the seventh postoperative day, and one in the twenty second day (postoperative mortality 14%).

Anastomotic leak occurred in three cases (21.5%), two of the patients have received preoperative radiation, and one of the three have severe malnutrition preoperatively with marked weight loss, this complication was treated conservatively to start with by inserting N/G tube, I.V. fluids and antibiotics, but all failed to respond. Then neck wound exploration and refreshment of the fistula site and secondary suturing was done and succeeded in two cases, the third one failed to respond and a myocutaneous flap was done for her by a plastic surgeon.

Case number	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Fistula				+				+						+
Tumour recurrence			+						+					
Pneumothorax					+								+	
Hypocloremia	+		+				+				+			
Wound infection				+				+	+					+
Postoperative death							22						7 th	
							day						day	

Age of patients in years	45	55	65	60	29	60	60	45	38	40
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Table II. Morbidity and mortality.

Two patients developed pneumothorax postoperatively (14%), a chest tube was put for two days, it solved the problem. Two patients developed signs of temporary hypocalcemia (14%), treated by IV calcium supplement. Four patients developed wound infection (28.5%).

Our mean period of follow up was about thirty months, during this period, patients were seen at monthly intervals or every two months in some of them. Two of the patients developed recurrence of the disease (14%), one of them died eight months after the operation, the other patient died two years after the operation, the third patient died due to C.V.A three months after operation. All the patients even those who died during the period of the follow up were swallowing satisfactorily.

Pathological examination of the resected tumours showed squamous cell carcinoma, six of them were poorly differentiated, six moderately differentiated and two well differentiated (fig.4).

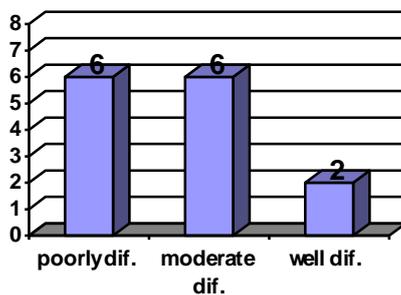


Figure 4. Pathological differentiation.

Discussion

Operative treatment of hypopharyngeal tumours presents a major challenge and

the prognosis despite any method of treatment is significantly poor and carries high mortality and morbidity. The procedure of stomach pull up using a trans-hiatal approach proved to be very reliable and efficient operation to overcome the main presenting complaint of the patients which is dysphagia⁴. As has been mentioned earlier that all our patients were swallowing fluids and solid diets satisfactorily even in those who died in the follow up period.

Another point is that PLFGP using trans-hiatal approach does not need thoracotomy which of course might add to the morbidity and mortality of the patients. We also think that preoperative radiation of the tumour area affects healing of the anastomosis in the neck with high incidence of fistulae post-operatively.

Malnutrition is of course another major problem that needs more attention pre and postoperatively. The lack of the parenteral fluids and the appropriate feeding tubes added more to the nutritional problems of our patients.

Shortage and difficulties in our radiotherapy institute reduced the usefulness of the DXRT in treating patients with malignancies in general.

Preoperative assessment of the site of the tumour presents no major problem to us in spite of the absence of CT and MRI, in fact we faced this problem in one patient only when we found a posterior tracheal wall involvement by the tumour. In this patient, the endoscopy was done thirty days preoperative, after which we lost contact with him for that time, we think that the aggressiveness of the tumour was the cause.

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