

Are Laryngectomy Outcomes From District General Hospitals (DGH) Different From University Hospitals?: An 11-Year Review From A DGH In The United Kingdom

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Abstract

Almost all the published literature of surgeries in head and neck malignancy are from major centres. With the current trend towards centralising cancer services, we looked at the laryngectomy outcomes from a small District General Hospital. A retrospective review of 34 patients who were operated between 1990 and 2000 was done. The incidence of most complications, like pharyngocutaneous fistula (15%), wound infection (32%) and survival is comparable to those published. There still may be a case for doing such operations in selected patients in small hospitals.

Study done in the Department of ENT, Stafford District General Hospital, U.K

INTRODUCTION

Though ample literature on the outcomes of laryngectomy is available, almost all are from major head and neck cancer specialist units. With the ongoing programme of centralising most of the head and neck oncology work to specific centres, we looked at the laryngectomy outcomes from a district general hospital (DGH), over an eleven-year period.

MATERIALS AND METHODS

This was a retrospective review of case notes of all laryngectomies done in our hospital from 1990 to 2000 (both years inclusive).

Thirty-seven patients were identified from the theatre systems and 34 case notes were available for inspection.

RESULTS

Of the 34 patients, 24 were males and nine were females (ratio 2.4:1). The age of patients ranged from 40 to 83 years, median being 61.5 years. The minimum follow up period was two years and maximum 11 years. None of the patients were lost to follow up in the first five years of starting the treatment.

The majority of the primary tumours were from larynx (24 patients). The other sites of primary tumours were

hypopharynx (5 patients), oesophagus (2 patients) and thyroid (2 patients). One patient underwent simple laryngectomy for intractable aspiration following road traffic accident and head injury.

Of the total number of patients, twenty-two patients had stage III/ IV (T3/4) tumours and eleven (a third) had initial radical radiotherapy and then salvage laryngectomy for recurrent / residual disease.

Fourteen patients had their surgery within a month of their first visit to the hospital. Another thirteen were started on appropriate therapy (surgery /radiation) within six weeks. Four patients had repeated biopsies for correct histopathological diagnosis and hence delay in instituting the treatment. In two patients the reason for delay of more than six weeks was unexplainable from reviewing the case notes.

The surgery performed is given in table 1

Figure 1

Table 1: The various operations done with the no: patients for each

Procedure	No:
Total laryngectomy	19
Total laryngectomy+radical neck dissection	9
Total laryngectomy +bilateral neck dissection	3
Total laryngopharyngectomy +gastric pull up	2
Total laryngopharyngectomy +bilateral neck dissection +jejunal graft	1

In thirty-one patients, the tumour was of squamous type, (well differentiated 6, moderately differentiated 18, poorly differentiated 6, verrucous carcinoma 1). There was one case each of Hurthle cell carcinoma and papillary carcinoma of thyroid. Eleven patients had extension of tumour beyond the larynx on histopathological examination. Of these eleven, six patients were salvage surgery and had already completed radical radiotherapy (RT). The rest five patients received postoperative RT.

MORTALITY AND MORBIDITY

One patient died due to intracranial bleed on second postoperative day. He was 83 years old, had ischaemic heart disease and diabetes melitus as co-morbid illnesses.

One patient developed serous collection and had to be surgically drained. The patient with gastric pull up had chyle leak into pleural cavity and had thoracotomy. Eleven patients (36.63%) developed wound infection. Two patients developed partial necrosis of flap and six patients had wound dehiscence due to the infection.

Six patients (19.98%) developed pharyngocutaneous fistula in the postoperative period. In one patient the fistula developed a month after the surgery, after his discharge from the hospital. Three of the patients with fistula had received preoperative radiotherapy. In five patients the fistula healed with conservative management and one needed surgical closure. The average duration of time for the fistula to heal was 56.77 days, the range being 8 –164 days.

The non-surgical complications included deep vein thrombosis in one patient, pneumonia and pressure sores in one patient. Three patients were discharged within seven days and 21 patients went home within a month.

Late complications included tracheostomal narrowing in eight patients (26.64%), who required only conservative management with stoma buttons. Thirteen patients (43.29%) developed late dysphagia due to pharyngeal stricture. Of these, seven had either preoperative or postoperative radiotherapy.

Postoperative development of speech was documented in the notes in 18 patients. Twelve patients developed good oesophageal speech, one had Provox valve inserted and one patient used electrolarynx. Four patients had only poor oesophageal speech. The patient who had laryngectomy for aspiration, speech development was not possible due the severe head injury.

During the follow up period four patients developed distant metastases and four developed loco-regional recurrence after variable duration (12.7 months average) of time. Three patients developed second primaries (one had synchronous and two had metachronous carcinomas of colon, breast and vallecula). The average survival was 56.79 months (range 2-132 months).

The disease free survival is given in table 2.

Figure 2

Table 2: The disease free survival period of the patients.

Disease free survival	No. of patients
<1year	6 (15.78%)
>1year <5 years	15 (43.95%)
≥ 5years	10 (29.3%)
Date of death not known	1 (2.93%)

Sixteen patients died during the follow up and the cause of death is listed in table 3.

Figure 3

Table 3: The various causes of death during the follow up period. The survival status of the patient with head injury is not known at the time of the study

Cause of death	No. of patients
Perioperative death	1
Recurrence/residual tumour	10
Second primary	1
Unrelated death	2
Unknown cause	2

DISCUSSION

Though centralising head and neck surgery to larger centres is an attractive proposition, whether this is required for all cases is questionable. The increased patient load this may impose on these centres may in turn increase the waiting periods and affect the quality of care. We believe that some of these patients can still be managed safely in district general hospitals.

It is seen that except for two patients, all the rest had their definitive treatment within six weeks of their first visit to hospital. None of the patients were lost to follow up.

Though our numbers are small, we found that pre operative radiotherapy did not predispose to higher complication rate. The incidence of pharyngocutaneous fistula (19.98%) is comparable to other studies.^{1,2,3,4} McCombe et al in a review of 357 patients from 1965 to 1990 reported an overall fistula rate of 23%. While the fistula rate was only 4% with primary laryngectomy, it went up to 39% in salvage surgery in their study.³ The Scottish audit reported a fistula rate of 18%.⁴

All our patients received perioperative antibiotics for 24-48 hours and the wound infection rate of 36.63% is similar to those published.^{5,6} The reported incidence of tracheostomal stenosis is variable (4% to 24%) in literature Wax et al reported overall incidence of 28.4% tracheal stenosis in their series of 106 patients.⁷ In our series all the eight patients who had stomal stenosis according to surgeons' judgement, none were symptomatic and were managed conservatively. The

postoperative late stricture rate in our patients (43.29%) seems slightly higher than recently published reports. With the tumour confined to larynx, the incidence of stenosis range from 10% to 30%, but with the pyriform fossa involvement, the incidence of stenosis may be as high as 73%.⁸ Our higher postoperative stricture rate could be due to the case mix, surgical technique or the lack of cricopharyngeal myotomy.

Since the numbers are small and the tumours are from different sites it is hard to calculate meaningful survival rates. If we look at the disease specific death, ten patients have died due to recurrent or residual disease.

Considering that the outcomes are comparable to larger centres, it may still be possible to do head and neck oncology surgery in smaller centres safely. Careful selection of cases depending on the expertise of the surgeons concerned and available perioperative care would be needed. At a time of increasing waiting lists delegating appropriate cases to smaller centres would be prudent. The additional factors like patient convenience, retaining surgical skills of surgeons in smaller hospitals and increased opportunity for junior medical staff to more advanced surgery are also met.

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