

Total Laryngectomy outcome of 36 cases after 5 years at Mosul Centre

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ABSTRACT

Objective: To evaluate results of treating laryngeal cancer by total laryngectomy.

Methods: A prospective study of 36 patients with squamous cell carcinoma of the larynx treated with total laryngectomy over five years period.

Results: The age range of the patients was between 34-72 years with a male to female ratio of 11/1. After five years follow up of patients, 100%, 84% & 14% were free of disease for T2, T3 & T4 respectively. Results of treating cases at T3 stage seems to be better when surgery preceded radiotherapy than when radiation given before.

Conclusion: Combination of surgery and radiotherapy gives relatively high cure rates if stage of tumour was still within the larynx (T3 or less). The results of this study shows that this was better when surgery preceded radiotherapy.

الخلاصة

الهدف: تهدف هذه الدراسة لتقييم نتائج علاج ورم الحنجرة الخبيث بعملية استئصال الحنجرة.
التصميم: دراسة لسلسلة من الحالات.

الطريقة: ستة وثلاثون مريض بسرطان الحنجرة عولجوا بعملية استئصال الحنجرة خلال فترة خمسة سنوات.
النتائج: تراوحت اعمار المرضى بين ٣٤-٧٢ سنة وكانت نسبة الذكور الى الاناث ١١/١. بمتابعة المرضى لمدة خمسة سنوات على الاقل وجد ان ١٠٠% و ٨٤% و ١٤% كانوا خالين من المرض للمرحلة T2 و T3 و T4 بالتسلسل. ووجد ان النتائج كانت افضل نسبيا اذا سبقت العملية العلاج بالاشعاع.
الاستنتاج: استخدام الجراحة و العلاج بالاشعاع معا يعطي نسبة شفاء عالية نسبيا اذا عولج المرضى في مراحل غير متقدمة للمرض. وكانت النتائج افضل اذا سبقت الجراحة العلاج بالاشعة.

Cancer of the larynx is a particularly important malignancy representing approximately 1% of all malignancies⁽¹⁾. It

share with only few other types of cancer a high rate of cure, which in certain subsites, may reach over 85% and overall

exceeds 50%^(1,2). A great responsibility is thus thrown on clinician, because careful evaluation and treatment bring probability of cure.

The first total laryngectomy was performed by Bilroth in 1873 and was not generally accepted because of the high mortality and morbidity at that time. However, Solis & Cohn, in 1892 improved the technique by diverting tracheal stump to skin. With the advent of radiotherapy in the second decade of twentieth century, the operation became less popular⁽³⁾. The operation regained popularity after 1940, as surgical aids were introduced (namely antibiotics, safe anesthesia and blood transfusion) and surgical techniques improved^(1,3).

The aim of this study is to evaluate the results of total laryngectomy in treating cases with laryngeal cancer and its complications in our center.

Patients and Methods

Over five years period (1996 -2000), total laryngectomy was carried out by larynx cancer team for thirty – six patients with carcinoma of the larynx without lymph node or distant metastasis at ENT department–Al Jumhuri Teaching Hospital. The indication for surgery were T3,T4 tumours and recurrence after deep X.ray therapy.

Preoperative general investigations were done to all patients and specific investigations (as C-T scan, MRI or both) was done whenever needed.

Patients' staging was done according to AJC system as it is the system approved in our unit and their numbers were:

4 patients	Stage 2
25 patients	Stage 3
7 patients	Stage 4

Total laryngectomy was the primary treatment in 13 patients and for recurrence after radiotherapy in 23 patients (Table 1).

Cases were followed for at least five years to find

- * five year survival
- * time and type of recurrence and its relation to stage of tumour
- * different complications after surgery.

Results

It is apparent that laryngeal cancer is a disease affecting mainly elderly males. The age range between 34- 72 years. All but three were males .The male to female ratio is 11/1.

Table 2 shows the number of cases who were disease free after five years follow up according to stage. Among the 25 patients with stage 3 tumour, radiotherapy was the initial treatment in 14 cases followed by total laryngectomy for recurrence. In the remaining 11 patients surgery proceeded radiotherapy. The cure rates of both groups are given in table 3.

The recurrence rates of the disease after surgery were:

Three patients: Cervical lymph node metastasis.

One patients : Liver metastasis

Two patients : Stomal recurrence

Four patients: local pharyngeal and oesophageal recurrence.

Table 1: Number of operations done before or after radiotherapy

Stage	Surgery as primary treatment	Surgery after radiotherapy	Total
T2	0	4	4
T3	11	14	25
T4	2	5	7
Total	13	23	36

Table 2: Five years survival

Stage	Total number of cases	Five years survival
T2	4	4 100%
T3	25	21 84%
T4	7	1 14%

Table 3: Cure rates for T3 stage tumours

Type of treatment	Number of cases	Cure rates
Radiotherapy followed by surgery	14	11 78.6%
Surgery followed by radiotherapy	11	10 91%

Discussion

Assessment of relative value of differing treatment methods of laryngeal cancer is not easy⁽¹⁻⁵⁾. Adequate conclusions by randomized controlled prospective studies are still lacking, in part as a consequence of difficulty of applications in cancer therapy⁽¹⁾. The two treatment modalities which aim at cure of laryngeal cancer are surgery, radiotherapy or both and the choice between them should be made according to the likely effective control of

the cancer, the general health of the patient and the relative consequences of the treatment⁽⁶⁾. Radiotherapy has the advantage of vastly reduced morbidity compared with surgery⁽⁶⁾. Experience over the last five decades showed that radiotherapy is the treatment of choice for early laryngeal cancer (T1&T2)^(1,6-8). Modern radiation techniques still allow the surgeon to perform partial or total laryngectomy for failures⁽¹⁾.

The treatment of more advanced (T3) lesions are more controversial^(1,5). Robin et

al⁽⁹⁾ showed that T3 glottic carcinoma may be treated by radiation with salvage surgery without any reduction in cure.

Birmingham and west midland regional cancer registry, showed that recurrence – free rates for T3 glottic cancer was 58% when surgery was primary treatment and 38% with radiotherapy⁽¹⁾. Djukie et al compared results of surgery and radiotherapy in laryngeal cancer especially when the anterior commissure was involved and found results of five – years survival in patients treated by primary surgery were highly more significant in relation to results obtained by radiotherapy of patients.

Bourhis et al⁽⁸⁾ studied results of combined radiotherapy and chemotherapy and concluded that laryngeal preservation is generally not proposed in patients with advanced T2 – T3 lesions or when tumour invades the cartilage or soft tissue of neck(T4).

In our study, patients with T3 tumour managed either with radiotherapy followed by surgery or the opposite and we found that five years survival rate was 78.8% for the former and above 90% for the later. It is generally better than studies that used single treatment method⁽⁵⁻¹¹⁾, and averages results of Baskota et al⁽¹²⁾ who achieved 89% disease – free cases with up to five years follow up and used surgery as primary treatment with radiotherapy in advanced cases.

Conclusion

Combination of surgery and radiotherapy gives relatively high cure rates if stage of

the tumour was still within the larynx (T3 or less). The results of this study shows that this was better when surgery preceded radiotherapy.

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