Stomal Recurrence After Total Laryngectomy

Pages with reference to book, From 154 To 156

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Abstract

Radical laryngeal surgery was performed in 71 patients of stage III and IV laryngeal carcinoma. They were followed-up for the stoma! recurrence) Stoma! recurrence occurred in 5 (7%) patients, four of these had cervical nodal metastasis. The average time interval between laryngectomy and the stomal recurrence was 19 months. All the patients expired and the mean length of survival after the recurrence was 5.3 months (JPMA 46:154,1996).

Introduction

The recurrence of tumour at or about the permanent stoma following laryngectomy is a serious and potentially lethal circumstance. Its incidence varies from 5-l5%[1]. By the time diagnosis is made, deep infiltration and extension have often occurred and therapy at this stage is frequently unsuccessful[2]. Certain factors have been demonstrated to predispose stomal recurrence and attempt should be made at prevention of this dreadful complication. Most commoncause of death in these patients is airway obstruction or massive haemorrhage[3]. (In this retmspective study, we analyzed the frequency of stomal recü&ence and its management at our department during the last 7-1/2 years.

Patients and Methods

Seventy-one patients of carcinoma of larynx underwent radical laryngeal surgery between June, 1987 and December, 1994, at the Department of Otorhinolaryngology, Civil Hospital, Karachi. Clinical, radiological and endoscopic examination was done in all cases prior to surgery. Primary surgery was done in 56 and primary surgery followed by radiotherapy in 15 patients. Surgical treatment included total laryngectomy in 55 patients, total laxyngectomy with partial pharyngectomy in 14 and total lazyngectomy with total pharyngectomy in 2 cases. Radical neck dissection for nodal metastasis was also carried out in 18 patients alongwith the primary surgery. Histologically all of them were squamous cell carcinomas.

Fifty-six patients presented with variable degree of respiratory distress and were subjected to emergency tracheostomy. The average time interval between the tracheostomy and the primary radical surgery was 12 days. Clearance of the paratracheal lymph nodes and tissues in tracheo-eosophageal groove was undertaken dunng surgery in selected cases with extensive and aggressive tumours. This precaution was not strictly followed in the earlier cases of this series due to the lack of awareness about this problem. All these patients, were followed-up at “cancer clinic” with a minimum period of6 months to a maximum of 7 years ormore.

Results

Majority of patients were between 41-60 years of age and most were males.

Table I. Age and sex distribution.

Age (years)	Male	Female	Total
<41	7	2	9
41-50	18	5	23
51-60	18	6	24
>60	14	1	15
Total	57	14	71

Table. 1 shows the age and sex distribution.

Table II. Topography and 'T' status.

Topography	T3	T4	Tx	Total
Glottic	13	0	2*	15
Supraglottic	16	8	0	24
Transglottic	-	-	32**	32
Total	29	8	34	71

*Recurrence after radiotherapy.

**Both UICC and AJCC uptil now do not include transglottic carcinoma in their classification.

Table II depicts the topography and 'T' status of the lesions. Stomal recurrence occurred in 5 out f 71 laryngectomies done at our department giving a frequency of 7%. The diagnosis of stomal recurrence was established histopathologically in all the patients by wedge resection biopsy around the stoma under local anaesthesia. Topographically, patients had tmnsglouic lesions and two supraglottic carcinoma. Regional nodal metastasis were absent in 4 cases at the time of pnmaiy surgezy while one patient had Ni lesion where radical neck dissection was also performed.

Table III. Time of stomal recurrence.

C.No.	Time of stomal recurrence	Nodal recurr-ence in neck	Treatment	Cause of death	Time of exp. after recurrence
1	5 weeks	Present	Radiotherapy	Bleeding	2.5 months
2	5 months	Absent	Chemotherapy	Respiratory failure	3 months
3	36 months	Present	Chemotherapy	Respiratory failure	8 months
4	21 months	Present	Chemotherapy	Respiratory failure	7 months
5	34 months	Present (contra)	Chemotherapy	Respiratory failure	6 months

Table III shows the time of stomal recurrence. Earliest recurrence was after 5 weeks of primary surgery. The longest time interval between the primaiy surgery and the stoma! recurrence was 36 months. Nodal relapse alongwith stoma! recurrence occurred in 4 out of 5 cases. In one case where the radical neck dissection of ipsilateral side was combined with primaiy surgeiy, nodal recurrence presented on the contralateral side, Normal chest radiography in all these cases and absence of any clinical suspicion of distant metastasis prompted against any further investigative search. Before laryngectomy, tracheostomy for the relief of airway obstruction was performed in all five patients.
Chemotherapy was given to four cases and one had radiotherapy. All cases expired with maximum survival of 8 months. The probable cause of death in four patients was respiratory failure due to the mechanical blockade secondary to large and expansile nature of the growth One patient expired due to severe bleeding as a result of erosion of a neck vessel by the growth.

Discussion

Seven percent stomal recurrence in this series is within the reported range of 5-15%[1]. The mean length of survival after stomal recurrence in the present series was 5 months which is less than 9 months reported in another study[4]. The average time from the total laiyngectomy to stoma! recurrence varied from 5 weeks to 36 months (average 19 months) which is longerthan 9.7 months reported man Asian study[5].
The exact aetiology of stomal recurrence after laryngectomy is still not clear, It may be due to the tumour implantation in the tracheostomy track or a nodal metastasis in the paratracheal lymph nodes. It is generally agreed that when stomal recurrence is present, the prognosis is poor[6]. Most investigators believe that the stomal recurrence is due to the metastasis in the paratracheal lymph nodes[4,5,7-9]. The involvement ofsub-glottic region is the most important factor in the stomal recurrence[4,5].
The dismal prognosis of stomal recurrence suggest that the management of this lethal complication should focus on prevention. Clearance of the paràtracheal lymph nodes and the tissues in the tracheo-oesophageal groove should be done alongwith primaiy surgeiy in selected cases. These include patients with vezy aggressive disease, with sub-glottic extension, withcervical nodal metastasis and where apre-operative tracheostomy has been performed for airway relief. These precautions were not strictly followed in our earlier cases due to lack of awareness about this problem. The frequency of stomal recurrence is higherin patients where the pre-operative emergency traccheostomy has been performed for the airway relief[10-12] , so it should, therefore, be avoided. In this series all patients with stomal recurrence underwent pre-operative emergency tracheostomy. In our setup there is no other alternative to life saving tracheostomy in patients reporting with impending respiratory failure due to advanced disease.

Emergency laryngectomy is a good alternative in patients with airway obstruction as it reduces the incidence of post- laiyngectomy stomal recurrence[13], however, another study negates this observation[14]. The disadvantage of emergency laryngectomy is that the diagnosis of malignancy is established on frozen section technique which may at times be false negative. Secondly, primary tumour lying lower down in the respiratory tract can be overlooked. Moreover, during stress and anxiety of emergency proper counselling, assessment and decision making about surgery often becomes difficult both for surgeon as well as the patient. Another new option for the airway obstruction is laser evaporation of the growth to create a serviceable lumen for the airway[2].

To prevent stomal recurrence in patients where pre-operative tracheostomy had been performed, a planned course of moderate to high dosage post-operative radiotherapy can be employed to sterilize the entire locoregional area including the stoma[15] If a tracheostorny is performed prior to laryngectomy, the tracheostomy track should always be excised togetherwith the specimen and a new stoma shouldbe made at a lower level in the trachea[16]. The role of possible tumour implantation by endotracheal intubation during laryngectomy has also been studied[17]. Stomal recurrence rate was compared in cases where endotracheal intubation or tracheostomy was performed for the purpose of anaesthesia and the recurrence rate was found to be equal in both of these groups.

In the management of stomal recurrence, radiotherapy is often used. In 1962, Sissondescribed mediastinaldissectionto remove the local disease as well as tumour within the superior mediastinum[18], Since then, refinements in the ablative surgery and major advances in the reconstructive techniques have significantly decreased morbidity and mortality[19]. Early diagnosis and staging of stomal recurrence yield good results with mediastinal dissection. Anterior mediastinal tracheostomy is a new way which facilitates resection of stomal recurrence[20]. Encouraging results have been reported with administration of induction chemotherapy to induce tumour regression before the definitive treatment[1]. In our series none of the patient survived. No surgical treatment could be offered as all the patients presented late and all were unfit for general anaesthesia. Secondly, services of a thoracic surgeon were not at hand in our hospital. Chemotherapy and radiotherapy were offered as palliation in all these patients. The best treatment of a stomal recurrence lies in its prevention. All factors which can promote this complication, must thoroughly be looked into,
but once it develops, a multidisciplinary approach is the best option.

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