

## A RETROSPECTIVE STUDY ON TOTAL LARYNGECTOMY AND ASSOCIATED COMPLICATIONS IN A TERTIARY HEALTH CARE CENTER



### ENT

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### ABSTRACT

Total laryngectomy is one of the therapeutic options for the treatment of laryngeal cancer. It is radical procedure where whole of the larynx is removed and in advanced squamous cell carcinomas 1,2 where partial laryngeal surgeries or radiotherapy has failed, this procedure is used as a salvage procedure. Common complications following the surgery include wound infections, pharyngo cutaneous fistula, flap necrosis, hematoma and carotid blow - out. This article is a clinical study conducted in our KAPV medical college during the period of January 2016 to January 2017. All the patients who underwent total laryngectomy and their complications which occurred during the study period were included.

**AIM:** To study the immediate and late postoperative complications after total laryngectomy and their probable aetiology and management in our institution

### KEYWORDS

Total laryngectomy, Laryngeal carcinoma, Complications, Pre - laryngectomy tracheostomy

### INTRODUCTION:

Most common head and neck malignancy worldwide is carcinoma of larynx. The commonest risk factors include tobacco and alcohol use. In the recent years' incidence rate has increased among women due to use of tobacco products and exposure to carcinogens. Laryngeal cancer can cause speech, breathing difficulties and impeded social interactions. Treatment options available include radiotherapy and surgery.

During the past 2 decades, chemo-radiotherapy became popular without any significant differences in survival rates. However, in advanced squamous cell carcinomas<sup>3</sup> where radical surgery is needed and in patients with poor pulmonary reserve and risk of aspiration<sup>4,5</sup> is high, total laryngectomy is preferred. However, this surgery is often accompanied by higher complication rate and also has a detrimental effect on individual's quality of life.

In advanced stage cancers where people would otherwise undergo total laryngectomy<sup>6</sup>, chemo radiotherapy seems to be the option for preserving larynx.

### TOTAL LARYNGECTOMY:

It involves complete resection of cartilaginous portion of larynx, hyoid bone and the infra hyoid muscles connected to larynx and also bilateral anterior selective cervical dissections (levels II, III and IV)

### OBJECTIVE:

To analyse complications of total laryngectomy and the impact of prelaryngectomy tracheostomy on patients.

### SETTING:

Tertiary health care centre – K.A.P.V. Govt medical College & MGMGH, Trichy

### MATERIALS AND METHODS:

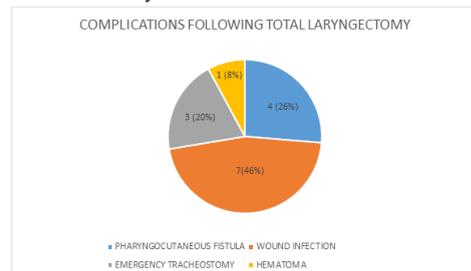
All the patients who underwent Total laryngectomy during the period of study were included. Patient factors including age, sex, tumour size, extent, metastasis were added. Their medical records were reviewed and survival information was gathered. About 30 people were diagnosed to have laryngeal carcinoma and 19 of them were advanced malignancies which needed surgical intervention. In total 15 patients between the age group 30 to 70 years underwent total laryngectomy during the period of study. Since our medical college hospital is a tertiary care centre, most of the patients were either referred or came late. Hence most of the patients were planned for total laryngectomy/partial laryngectomy and reconstruction surgeries. Since 3 patients came with stridor underwent emergency prelaryngectomy tracheostomy



### RESULTS AND DISCUSSION:

various comorbid illness associated with patients had a negative impact and predisposed to post-operative complications in patients underwent surgery. Patients treated with primary radiotherapy and chemotherapy underwent more complications than with laryngectomy.

Most common complications associated with surgery in our institution were wound infection and pharyngocutaneous fistula 7 Preoperative general conditions mainly anemia, poor hygiene and protein energy malnutrition, preoperative radiotherapy, preoperative chemotherapy, age, stage, history of alcoholism<sup>8</sup> and also delayed referral were found to play a major role in immediate post-operative complications even though patients were started on higher antibiotics and good wound care. Low albumin, diabetes, preoperative radiation was independently associated with post-operative wound infection which is co related to the study of SETH/AT



Preoperative radiotherapy was found to be the predictor of pharyngo cutaneous fistula 9 which was managed conservatively. Positive surgical margins, extended hypo pharyngeal mucosal excision and low HB were also attributed for its development. In the retrospective study of pharyngocutaneous fistula, most of the histopathological diagnosis was squamous cell carcinoma. Most of them, who underwent for total laryngectomy in stage T4, to whom primary closure was done with 3-0 polygalochine suture and primary trachea oesophageal puncture was

done. As per Hogan and Dedo study, fistula was diagnosed from 3rd to 10th post-operative day. There were 3 minor and 2 major fistula(8weeks). The hospital stay time varied from 1 to 30 days. Our study correlates with the study of Natvig K Boysen M – Fistula following primary laryngectomy was 2% to 3% and the incidence was increased in post irradiated patients up to 12%. Resection of excess pharyngeal mucosa due to more extensive tumours was seen in our study and was found to have significant effects that increase the rate of pharyngocutaneous fistula.

Radiotherapy produces more often fistulas whereas chemotherapy was associated with complications like poor wound healing, and dehiscence.

Preoperative tracheostomy remains to be an adverse prognostic indicator in patients undergoing laryngectomy 10. In our study 3 patients underwent emergency tracheostomy before laryngectomy since they presented with stridor. All of them has pharyngocutaneous fistula which correlates with previous study of Paydanfar J.

#### CONCLUSION:

In our institution, since many comorbidities were associated with patients, wound infection and pharyngocutaneous fistula were the commonest complications following surgery. Previous treatment with radio and chemotherapy were also determining factors for complications and survival rate 11,12. Due to late presentation, some patients had to be taken up for emergency tracheostomy which also is an adverse prognostic index. Early identification and assessment of risk factors can greatly reduce associated complications

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