



## Retrospective Study of Nodal Failure in 65 Cases of Carcinoma Larynx

Authors

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### Introduction

Cancer of the larynx represents 2% of cancer in developed countries. In India the risk is around 6%. According to caritas cancer institute registry it is the 7<sup>th</sup> commonest. Western literature shows a downward trend in the incidence the last few decades. But in India it shows an upward trend. The lymph nodes status is the most important prognosis factor in patients with squamous cell carcinoma of head and neck. It varies from 1% in glottis cancers to 75% in high grade supraglottic cancers.

### Aim of the study

1. To find out the patterns of lymph nodes failure
2. Treatment results of cervical lymph node failure
3. To compare various modalities of treatment to prevent nodal failure

### Materials and Methods

A retrospective analysis of 65 cases of carcinoma larynx treated at caritas cancer institute's from January 2000 to July 2012. Primary treatment, type of lymph node failure and results were analyzed.

### Observations

**Table 1:** Primary Treatment

Stage	SUR	SUR+RT	CT	CT+RT	RT
T2	0	0	0	0	11 (31.4%)
T3	3 (30%)	4 (25%)	0	1 (100%)	13 (37.2%)
T4	7 (70%)	12 (75%)	3 (100%)	0	11 (31.4%)
TOTAL	10 15.4%	16 24.6%	3 4.6%	1 1.5%	35 53.9%

In more than 50% of the series, the primary treatment was radiotherapy only. 40% of cases have undergone surgical treatment.

**Table 2:** Pattern of nodal failure:

TREATMENT MODALITY	NODAL FAILURE PATTERN					
	SAME SIDE		OPPOSITE SIDE		BILATERAL	TOTAL
	SAME LEVEL	OTHER LEVEL	SAME LEVEL	OTHER LEVEL		
RT	5 (38.5%)	3 (23.1%)	0	3 (23.1%)	2 (15.4%)	13
CT	3	0	0	0	0	3
DELAYED	1	0	0	0	0	1

The nodal failure was detected only in Radiotherapy and chemotherapy group. More than 50% failed on the same side only. Around 32% (5/17) cases failed on the opposite side. 2 cases failed on both sides. In observation group one case failed in ¼ (25%) on the same side.

**Table 3:** Pattern of Nodal Failure According to T Stage

Stage	Nodal Failure	
	NO	%
T2	2	18.1
T3	3	14.3
T4	12	36.4

The maximum failure rate was seen in T4 lesion.

**Table 4:** Nodal Failure Pattern According to N Stage

N Stage	Number	Percentage
N0	4	12.50
N1	4	30.76
N2	8	42.10
N3	1	100.00

This chart also shows increase in pattern of failure as the N stage increases.

**Table 5:**

Treatment modality	Mean follow up	Mean disease free survival
Surgery only	5 ½ MONTHS	5MONTHS
S+RT	8 MONTHS	8MONTHS
CT	4 MONTHS	12MONTHS
CT+RT	14 MONTHS	12MONTHS
RT	8 MONTHS	6MONTHS

**Treatment Offered For Failure**

More than 60% of the patients were advised chemotherapy. The response rate was poor in 80% of cases. The chemotherapy schedule was cisplatin and 5FU.

3out of 17(18%) were advised surgery and Radio therapy. Both groups refused for the treatment and lost for follow up.

2out of 17 were advised palliative care only.

**Discussion**

Carcinoma of larynx is the 7<sup>th</sup> common cancer affecting male population of south India. It forms an interesting group of diseases for surgical and oncological management. The tumor registries published by various institutes have shown its incidence to be around 4.5%. At caritas cancer and research institute about 10 cases of carcinoma larynx are registered per year.

The Analysis of American population for the risk of Ca Larynx (Roy B. Sessions et al) showed the maximum risk for developing this disease was with middle aged and older people. The peak incidence was in 6<sup>th</sup> decade. The male to female ratio was 15:1 in 1956, but in 1996 the ratio was 4.5:1, probably due to change in smoking and drinking habits.

In our study also the maximum incidence was in 6<sup>th</sup> decade. But regarding the male to female ratio a definite change in pattern was observed i.e. 31.5:1. This may be due to very low rate of smoking habits in the female population of kerala.

In this series of 65 cases; except for 4 cases; all other patients were offered some form of treatment for nodes. This is due to the fact that more number of cases presenting in high T stage. Peter Levendag in his analysis of MSKCC records of early stage supra glottic carcinoma found that there was a high rate of incidence of neck metastasis and relapse in neck correlated with death rate. In this series 90% cases were electively treated for neck nodes.

The treatment offered to the neck was dependent on the stage on the stage of T and N the treatment offered for the primary tumor. Ronald H. Spiro in his series of 66 patients concluded that selective jugular node dissection may be an effective treatment in conjunction with radiotherapy for nodal management in carcinoma larynx in N0 and N1 cases. Considering the T stage and Nodal failure pattern, more than 50% of the failure was with T4 group with single modality approach. This indicates the need for combined modality approach to high stage tumors. All the failure was in the radio therapy only group.

Regarding the nodal status also, 50% of failure was in N2 group.

In this small follow up the highest disease free survival was with combined modality approach. Surgery + RT give maximum disease free survival.

#### Treatment Offered for Failure in Nodes

Casaregrandi after his series of 113 patients found that a Cervical relapse after surgery or radio therapy is a grave event in cases of any head and neck cancer. The salvage possibilities are rare. In this series >60% of the patients were advised Chemo therapy and the response rate was poor in 80%. 3/17 was advised surgery and 2 patients were given only palliative care.

#### Summary and Conclusion

- 1) 65 cases of histologically proved and fully treated cases of carcinoma larynx were analyzed.
- 2) This is not an uncommon tumor with an incidence of around 7%, with male sex more involved.
- 3) Only T3 and T4 were treated electively with surgery for lymph nodes in this series. Neck nodal treatment is needed for T3 or T4 tumor even in N0 group.
- 4) Radiotherapy only group showed maximum failure rate in nodes. So higher stage tumor needed multimodality treatment for good control.

- 5) Chemotherapy showed 80% initial control for recurrence.
- 6) Treatment of nodal failure with chemotherapy showed poor response rate. Salvage possibilities are rare.

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