Introduction

The larynx is the most common site for primary malignant tumour in head and neck region which accounts for 25 -30% of Head and neck malignancy. It represents 1-2% of all malignancy in men. Which is the 11th most common cancer in men worldwide. There is a steady rise in the incidence of cancer of the larynx during the past decades. A higher incidence of laryngeal carcinoma has been reported from Asian population. In the western Asia and India, laryngeal cancer account for more than 6% of all cancers among men.

Carcinoma larynx is not uncommon in Bangladesh. Laryngeal cancer is one of the 10 most common cancers in Bangladesh. Study in our country showed that the number of patients suffering from carcinoma larynx is increasing gradually. One study in this country had shown 35.32% of all cancer was in head and neck region and the commonest head and neck malignancy was laryngeal carcinoma 31.58%. In a recent study shows the overall incidence of Head and Neck Squamous cell carcinoma was 150 person in 1,00,000 population (0.15%). This study also revealed that incidence of carcinoma of the larynx was 25.22%. Highest incidence was found in the 6th decade of life in both sexes with male female ratio was 4.5:1.

One of the most important significant prognostic factors in head and neck cancer is the presence or absence, level and size of metastatic neck disease. A single ipsilateral cervical lymph node metastasis decreases 5-year survival rate by 50% patients with squamous cell carcinoma of the supraglottis of larynx. This survival rate decreases according to the number and level of the metastatic neck node involved and presence of capsular rupture. Nodal metastasis is also associated with a high rate of regional recurrence. This study tries to correlate the metastatic neck node in different stage of supraglottic carcinoma. In this study it has tried to find out significance of frequency of neck node metastasis in different stage of supraglottic laryngeal carcinoma. So far it is known, comparative study on this
subject was not carried out previously in our country. The result of the study will provide some knowledge about the incidence and pattern of neck nodal metastasis of the supraglottic laryngeal carcinoma with their presentation and association factors, which may help in the early and appropriate diagnosis of the diseases and choice of treatment modalities.

Materials and Methods

This cross sectional study which was carried out in the department of otolaryngology–Head & Neck Surgery BSMMU, DMCH, SSMC Hospital during this period of July 2009 to March 2011. A total 80 patients of supraglottic carcinoma admitted in the department of ENT Head-Neck Surgery, BSMMU, DMCH, & Mitford Hospital during the study period. All the patients of supraglottic carcinoma admitted in the respective department diagnosed and confirmed by clinical examinations, endoscopic biopsy and histopathology. After taking informed consent and matching the inclusion criteria were included in this study. A Standardized structured data collection instrument was used to collect necessary information of the study subject, which includes-particulars of the patient, demographic profiles, History, clinical examination, laryngoscopic finding, cytological and histological findings, and relevant radiological findings.

Results & Observations

Table-I: Age distribution (n=80).

<table>
<thead>
<tr>
<th>Age</th>
<th>No of Patients</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>40 - 49 Years</td>
<td>16</td>
<td>20.0%</td>
</tr>
<tr>
<td>50 - 59 years</td>
<td>38</td>
<td>47.5%</td>
</tr>
<tr>
<td>60 - 69 years</td>
<td>20</td>
<td>25.0%</td>
</tr>
<tr>
<td>70 - 79 years</td>
<td>4</td>
<td>5.0%</td>
</tr>
<tr>
<td>80 + years</td>
<td>2</td>
<td>2.5%</td>
</tr>
<tr>
<td>Total</td>
<td>80</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Table-II: Site of involvement of growth supraglottic carcinoma larynx (n=80).

<table>
<thead>
<tr>
<th>Distribution of cases</th>
<th>No. of cases</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aryepiglottic folds and Arynoids with Epiglottis</td>
<td>40</td>
<td>50.00%</td>
</tr>
<tr>
<td>Epiglottis with Vestibule</td>
<td>19</td>
<td>23.75%</td>
</tr>
<tr>
<td>Epiglottis</td>
<td>11</td>
<td>13.75%</td>
</tr>
<tr>
<td>False cord</td>
<td>5</td>
<td>6.25%</td>
</tr>
<tr>
<td>Aryepiglottic folds</td>
<td>5</td>
<td>6.25%</td>
</tr>
</tbody>
</table>

Discussion

Carcinoma larynx is not uncommon in Bangladesh. Laryngeal cancer is one of the 10 most common cancers in Bangladesh. Previous study revealed that incidence of carcinoma of the larynx was 25.22%. Highest incidence was found in the 6th decade of life in both sexes with male female ratio was 4.5:1. Supraglottic carcinoma of larynx is a common (67-73%) disease in otolaryngology in Bangladesh.
purposively selected three tertiary hospitals of Dhaka during July 2009 to March 2011. Among them 32 [40%] patient had metastatic neck node.

The incidence (as opposed to mortality) of laryngeal carcinoma is common with other head and neck cancer increase with age. This is predominantly found in patient aged from 50-70 years4,15,16. In this study age of the patient ranged from 38-83 years (mean 57.58 ± SD 9.79 years). 38 (72.5%) of patients were in the 5th- 6th decade. Highest number (38, 47.5%) of patient with supraglottis carcinoma larynx was found between 50 to 59 years of age. No case was found below 38 years of age. In the developing countries many cases are diagnosed in individuals before 5th decade of live. Less than 1% of Carcinoma of the larynx occur before age of 30 except for the supraglottic type that has a lower age range5.

One invariable characteristic of carcinoma of the larynx is its greater predominance in men compared with women14. The male/female ratio (8:1) is higher for cancer at any other site, thus emphasizing the rarity of laryngeal cancer among females15. This international male/female ratio for the incidence of laryngeal carcinoma Male to female ratio was (M:F)9:15. The overall male to female ratio varies 4:1 to 20:1. Here 72 (90%) patient were male and 8 (10%) were female, Male to female ratio was 9:1, which was consistent with other studies in Bangladesh and in this subcontinent.

Most of the supraglottic growth was exophtic in appearance (60%). 40% lesion was ulcerative type. No fungating type was observed in this study. This two types had no statistically significant difference (P=0.127). This was also similar to study of Haque, 2000.

The most common site of origin of supraglottic carcinoma is the center of infrahyoid epiglottis followed by the false cord, suprahypoid epiglottis, aryepiglottic fold and ventricle15. The common site of involvement of supraglottic carcinoma in this study was epiglottis (87.5%). 5 cases (6.25%) were in Aryepiglottic fold and other 5 cases (6.25%) had lesions at false cord. There was statistically significant difference among the involvement of carcinoma in other different sites of the supraglottic larynx (P <0.001).

In this study all the carcinoma larynx were found as squamous cell carcinoma of different variant and degree of differentiation. Majority of the subjects were found well-differentiated (57.5%) which was belong to grade-I. 30% patients had moderately differentiated (grade-II) and 7.5% (grade- II) patients had poorly differentiated carcinoma (grade- III) and 4 (5%) patients had undifferentiated carcinoma (grade- IV).

Out of 80 patient 32 (40%) had their regional lymph nodes involved. There was not a significant difference in the proportions of individuals with the presence or absence of metastatic neck node (z= 1.526, P = 0.127). 16 (50%) patient were found in early stage of neck node metastasis (<3cm in size in ipsilateral side). Homolateral involvement of nodes were found in most cases 28 (87.5%).

One of the most important significant prognostic factors in head and neck cancer is the presence or absence, level and size of metastatic neck disease. A single ipsilateral cervical lymph node metastasis decreases 5-year survival rate by 50% patients with squamus cell carcinoma of the supraglottis of larynx. This survival rate decreases according to the number and level of the metastatic neck node involved and presence of capsular rupture8. Nodal metastasis is also associated with a high rate of regional recurrence10.

Poorly differentiated tumours have the highest of distance metastasis. Though presented late, in no case of our series distant metastasis was found. So, all were in M0 state. In presentation staging was concerned maximum (31.25%) at stage-II followed by 22.50% at stage-III, 25% in stage-I and 21.25% were in stage-IV. (Table-II). The distributing of stage is almost nearer to others studies11,12,17. For proper staging CT Scan and MRI were necessary, but could not done for monetary problem of the patients.

Conclusion
To evaluate the cervical lymph node metastasis in different stage of supraglottic laryngeal carcinoma this cross sectional study was done in limited three hospitals in Dhaka among limited number of subjects. Lymph node metastasis was found in early supraglottic carcinoma (T1& T2) of larynx is significantly frequent in level II cervical lymph node. There was also significant association and correlation was found in advance stage of tumour with the size of tumour and node, site of involvement, age and sex groups, smoking and sociodemographic factors. Result of this study may help the clinician for their planning of treatment of this malignant diseases as well prevention.

Conflict of Interests: None.

Acknowledgement
This study was conducted at the department of otolaryngology & head-neck surgery Bangabandhu Sheikh Mujib Medical University under the guidance of Prof. Belayat Hossain Siddiquee chief of head – neck surgery division, department of otolaryngology & head - neck surgery, BSMMU with help of other authors as a thesis of the corresponding author.

References


