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Original Research Paper

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A CLINICAL STUDY OF PREVALENCE OF LARYNGEAL CANCER IN ELDERLY AND ITS ASSOCIATION WITH SMOKING AND ALCOHOL

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ABSTRACT Laryngeal Cancer refers to cancerous tumor that develops in Larynx, for example, glottis, supraglottic region and subglottis. The purpose of this present study was to investigate the prevalence of Laryngeal Cancer in elderly patients attending a tertiary care centre. A detailed survey was performed to analyze whether Laryngeal Cancer is associated with smoking or alcohol. The study revealed that Laryngeal Cancer is more common in elderly individuals who smoke and drink alcohol. Avoidance of alcohol intake and smoking will be a milestone to reduce the incidence of Laryngeal Cancers and associated mortality.

KEYWORDS : Laryngeal Cancer, prevalence,smoking,alcohol.

I. INTRODUCTION

Cancer is a disease of our body cells. Our body on regular basis produces new cells to repair after injury, for growth and to replace old damaged cells. Normal cells grow and divide to form new cells as the body needs them. When normal cells grow old or get damaged, they die and new cells take their place. Sometimes, this process may go wrong.

Some cells are formed newly when the body doesn't need them and old or damaged cells don't die as they should. Build up of extra cells often forms a mass of tissue called a growth or tumor. Tumors can be benign which are non-cancerous or malignant which are cancerous

There is a strong association between Laryngeal Cancer and Cigarette smoking .The Relative Risk of Laryngeal Cancer between smokers and non-smokers is 15.5 in men and 12.4 in women. Variation in risk of Alcohol is shown for different sites in the larynx, i.e. supraglottic cancer patients are more likely than glottis and subglottic patients to be heavy drinkers of Alcohol[1].

Laryngeal Cancer stages range from I (small, early tumors that still resemble tissue they have come from, also referred to as well-differentiated) through to stage IV (larger, more advanced tumors that no longer look like normal tissue type,referred to as poorly-differentiated).

Treatment involves surgery, radiotherapy, chemotherapy or a combination of all three above treatments. By considering above factors we conducted a survey for association with risk factors in patients attending Department of Otorhinolaryngology, Gauhati Medical College and Hospital, Guwahati, India

II. METHODOLOGY

Survey was conducted to collect data of 60 years and above attending OPD and ward of department of Otorhinolaryngology, Gauhati Medical College and Hospital, Guwahati, India.

The patients had undergone investigations like Routine blood examination, Barium Swallow X-ray of pharynx and esophagus, Upper gastro-intestinal endoscopy and Laryngoscopy, Fine Needle Aspiration Cytology(FNAC) of neck nodes if present, Computed Tomographic Scan(CT Scan), Magnetic Resonance Imaging(MRI), Punch from the growth and Histopathological examination(HPE) of the tissue. It is a Prospective study. The study was conducted over 12 months period from 1st April 2021 to 31st March 2022.

After the completion of the survey, a data of 29 Laryngeal Cancer affected individuals were recorded, that include 24 males and 5 females.

The data was analyzed by calculating the percentage distribution of site, differentiation and risk factors,i.e. smoking and alcohol.

III. RESULTS AND OBSERVATION

III. (a). Gender specific comparison of risk factors in Laryngeal Cancer affected individuals

Out of 29 patients,24 patients are male of whom 22 patients smoke and 5 patients are female of whom 1 patient smoke.6 male patients are alcoholic and 1 female patient is alcoholic.5 male patients and 1 female patient who smoke as well as drinks alcohol. Among the surveyed patients, the habit of smoking, alcohol consumption and both was more in males compared to females. (Fig.1)

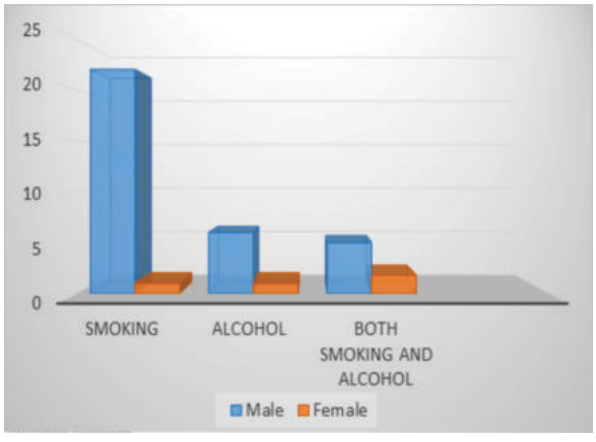

Fig.1: Gender specific comparison of risk factors in Laryngeal Cancer affected individuals

III.(b). Histopathological Examination is done after Laryngoscopy and Biopsy

Histological Differentiation for these patients are-

SL No	Histological differentiation	Number of Patients
1	Well Differentiated Squamous Cell Carcinoma	7
2	Moderately Differentiated Squamous Cell Carcinoma	17
3	Poorly Differentiated Squamous Cell Carcinoma	5

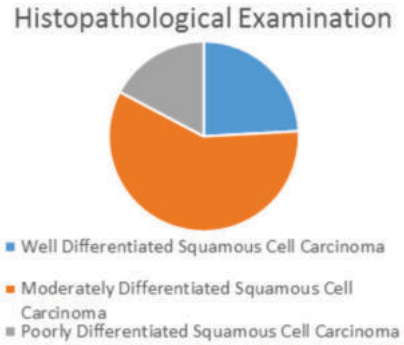

Fig.2: Histological Differentiation for patients with Laryngeal Malignancy

III.(c). Specific subsites of Larynx where growth was there

Specific subsites of involvement are-

SL No	Specific Subsites	Number of Patients
1	Aryepiglottic Fold	20
2	Epiglottis	5
3	Epiglottis, Aryepiglottic Fold	1
4	Interarytenoid Region	2
5	Vocal Cord	1

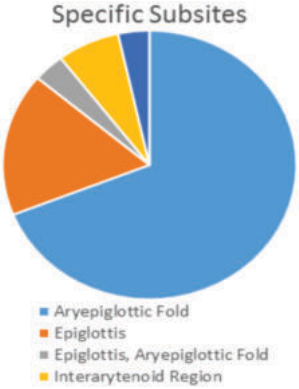

Fig.3: Specific subsites of involvement in Laryngeal Cancer

IV. DISCUSSION

Among 29 Laryngeal Cancer affected individuals surveyed, all of them were above 60 years of age, attending department of Otorhinolaryngology, Gauhati Medical College and Hospital, Guwahati. Results of the survey revealed that Laryngeal Cancer is most common among males. Smoking is the most important identified cause of cancer and is responsible for about 83% of cancers in men and about 17% in women. In gender specific comparison our survey revealed that male individuals were most affected than female individuals i.e., 24 males and 5 females.

According to present data the maximum number of smokers, alcohol consumers and both(smokers and alcohol consumers) are above the age of 60 years. The number of smokers, alcohol consumers and both(smokers and alcohol consumers) were found higher in males than females. Hence, it may be inferred that males are at the higher risk than females of Laryngeal Cancer.

The effects of tobacco use, heavy alcohol consumption explain over 90 percent of cases of neck cancer (Johnson N, 2001) [3]. Alcohol and tobacco use can increase the risk of cancer of the oral cavity and throat (pharynx), and their combined use has a multiplicative effect on risk (Claudio Pelucchi, Sc.D.; et al. 2006) [4]. Our survey also revealed that individuals with mixed habits of smoking and alcohol consumption are more in number. Hence, smoking and alcohol consumption altogether may be considered as major risk factors for Laryngeal Cancer. Further, the age of 60 years and above along with smoking and alcohol consumption as mixed habits may be considered as major risk factor where it may affect more males than females. Many epidemiological studies conducted over the last three decades in the America, Europe and Asia have provided strong evidence of an association between alcohol and tobacco use (both separately and in combination) and an increased risk of oral and pharyngeal tumors (Blot et al., 1988; Franceschi et al., 1990; Zheng et al., 1990, 2004) [2, 5, 6].

All the three habits such as smoking, alcohol consumption and both(smoking and alcohol consumption) in the age 60 years and above are effective in inducing Laryngeal Cancer than other risk factors. Risk factors most frequently associated with head and neck cancers include smoking, alcohol consumption, HPV infection (especially for oropharyngeal cancers), and EBV infection (for nasopharyngeal cancers).

Finally the present study has revealed the possible association of age and gender with Laryngeal Cancer. This data presents further evidence for association of smoking, alcohol consumption and both (smoking and alcohol consumption) as risk factors to the Laryngeal Cancer[7].

V. CONCLUSION

Laryngeal Cancer is common in elderly individuals and it is commonest in people who smoke and drink alcohol. In our study, males are more affected than females as they have higher habit of smoking and drinking. Avoidance of alcohol consumption and smoking will be a milestone to reduce the incidence of Laryngeal Cancer and associated mortality. Hence, from the survey it may be concluded that smoking and alcohol consumption are the main risk factors for Laryngeal Cancer.

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