

Clinico-Epidemiological Profile of Patients with Advanced Oropharyngeal Squamous Cell Carcinoma: A Retrospective Study

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ABSTRACT

Background: Oropharyngeal tumours account for about 12% of head and neck malignancies, more than 90 % of which are squamous cell carcinoma (SCC). **Objectives:** The aim of this study was to acknowledge the clinico-epidemiological profile of patients with advanced oropharyngeal squamous cell carcinoma. **Methods:** This retrospective study was conducted at a tertiary care centre in Uttar Pradesh. Records of 650 patients of advanced oropharyngeal squamous cell carcinoma were reviewed. Elaborate history & examination findings were noted from case-sheets. Results were expressed as percentages. **Results:** Most of the patients were from 4th to 8th decade and more than 90% were males. Smoking as a risk factor was present in about 85% and about half were tobacco chewers. Dysphagia was the most common presentation followed by neck mass. Base of tongue was the most frequent primary site; tonsil was next in order. Level II lymph nodes were mostly involved and belonged to N2 stage. Distant metastasis was uncommon (<1%). **Conclusion:** Advanced oropharyngeal squamous cell carcinoma mainly affects the elderly age group with male preponderance. Smoking is the risk factor which was mostly implicated followed by tobacco chewing. Most patients complained of dysphagia. Amongst all subsites, Base of tongue was the most common site. Nodal metastasis is seen in most patients. Distant metastasis is uncommon in even advanced stages. Elderly patients with complaints of dysphagia and neck nodes should be referred to specialists at earliest for timely management.

Keywords: Retrospective Study; Oropharyngeal Neoplasm; Carcinoma, Squamous Cell.

INTRODUCTION

About 10 to 12 % of all head & neck malignancies are oropharyngeal tumours, more than 90 % of which are squamous cell carcinoma (SCC). Squamous cell carcinoma of oropharynx is more common in men, with a sex ratio of 4:1, and is usually associated with the sixth or seventh decade of life.

The main associated etiological factors are smoking and alcohol consumption, the effects of which are cumulative. Tobacco chewing is another factor implicated.

The oropharynx harbours rich lymphatic network. Therefore, tumours arising from this region are likely to have early nodal involvement and ~ 60% of these patients present with stage III and IV tumours at diagnosis.^[1]

Most common complaint at presentation of tumour is pain, this pain is attributed to either severe mucositis, deep infiltration of tumour or is referred. Absence of pain fibres in base of the tongue results in delayed presentation of the patient. Other presentations include sore throat, difficulty in

swallowing and earache. With local advancement and / or with infiltration of pterygoid muscles, patients can experience trismus and, ultimately bleeding or swallowing or difficulty with speech.

It is pertinent to diagnose this disease early so that better management and thus survival rates can be offered to the patients. The epidemiology and the histopathological types of HNC have been widely studied but very few studies have been done about oropharyngeal carcinoma which is common site among head and neck carcinoma.^[2,3] Hence, this study, was planned to acknowledge the clinico-epidemiological profile of patients with advanced stage oropharyngeal squamous cell carcinoma at a tertiary care centre in Uttar Pradesh.

MATERIALS AND METHODS

Setting: Tertiary care centre in Uttar Pradesh.

Study design: Retrospective study

Inclusion criteria:

- Histologically proven squamous cell carcinoma
- Stage III and IV oropharyngeal carcinoma
- Age > 18 years

Exclusion criteria:

- Non squamous cell carcinoma
- Second primary

American Joint Committee for Cancer TNM staging was followed. Details regarding age, sex, risk

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factors, primary and secondary site and distant metastasis were noted from case – sheets. Results were expressed as percentages.

The authors assert that all procedures contributing to this work comply with the ethical standards of the relevant national and institutional guidelines on human experimentation and with the Helsinki Declaration of 1975, as revised in 2008.

RESULTS

This study included 650 patients whose records were retrospectively reviewed. More than 90 % of the patients were of 4th to 8th decade. More than 90 % were males and the male to female ratio was 12:1. About 84% patients were smokers and half of the patients were tobacco chewers.

Table 1: Age – Wise Distribution of Patients

Age Group (years)	No. Of patients	% (n = 650)
< 40	57	8.77 %
40 – 60	363	55.84 %
60 – 80	216	33.23 %
>80	14	2.15 %

Table 2: Association of Risk Factors

Risk factor	No. Of patients
Alcohol	52 (8 %)
Smoking	545 (83.85 %)
Tobacco chewing	332 (51.08 %)

Dysphagia was the most common presenting symptom, seen in about 3/4th of total cases. Neck mass which was found in 41.69 %, was the next common presenting symptom. Other major presenting symptoms in decreasing order of frequency were odynophagia, voice change, otalgia and nonspecific pain. Least common presentation was anoxemia. [Figure 1] Base of tongue was the most common site of involvement in oropharyngeal carcinoma. It was the primary site in more than 65 % of patients. It was followed by tonsil and palate. Primary uvular malignancy was least common. [Figure 2].

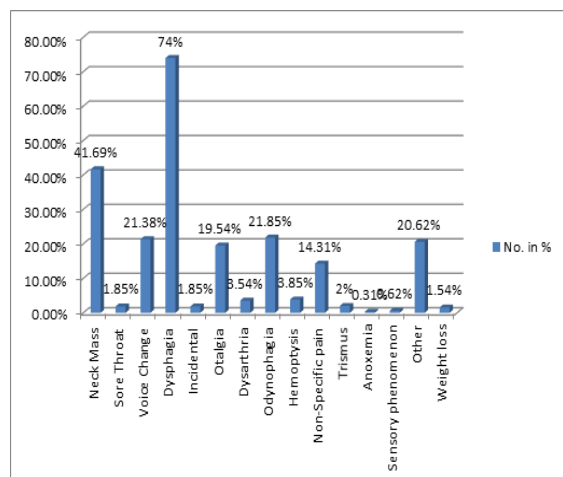


Figure 1: Distribution of presenting symptoms

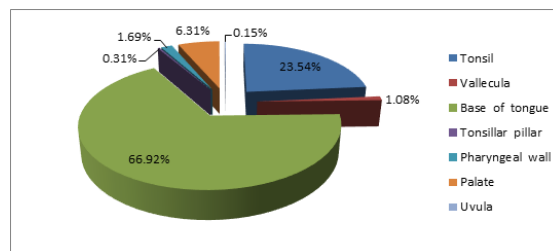


Figure 2: Distribution of primary site

Table 3: Distribution of Neck Stage

N stage	No. Of patients
N0	123 (18.92 %)
N1	142 (21.85 %)
N2A	76 (11.69 %)
N2B	65 (10.00 %)
N2C	162 (24.92 %)
N3	82 (12.62 %)

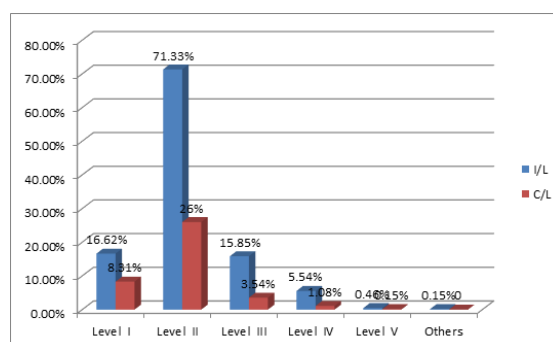


Figure 3: Distribution of lymph node metastasis

About 81% of patients had neck nodes at presentation. Most of the patients had N2 nodes (46.61%). Almost one-fifth of the patients had bilateral neck nodes at the time of presentation. More than 10 % had lymph nodes of > 6 cm size. [Table 3] Most common location of lymph node metastasis was, level II, with highest ipsilateral (71.33%) and contralateral (26%) involvement, followed by level I and III.

Metastasis was very uncommon, present in 5 patients only. Out of these, 4 patients had metastasis in lungs, and 1 had metastasis in the liver.

Most patients had well differentiated carcinoma (70 %), followed by moderately and poorly differentiated varieties. In our study, the maximum number of patients belonged to the T3 and T4 (about 70 %). Overall, more than half of the patients belonged to TNM stage Iva (58.31%), second most frequent stage was III (28.46%).

DISCUSSION

Records of 650 patients with advanced oropharyngeal squamous cell carcinoma were reviewed. In our study, the most commonly affected age group was elderly (40 – 80 years) with male preponderance (>90 % males). This is in congruence with study by Osazuwa et al who studied 38,624 cases of oropharyngeal primary and found most

commonly affected age group to be 50 plus and 74% of patients were males.^[4] Alam et al reported carcinoma oropharynx to be more common above 40 years of age.^[5] They also found males preponderance. Mak et al also suggested more affection of males in the 6th to 7th decade of life.^[6] Male predominance in this study may be because of higher incidence of smoking and tobacco chewing among males, lack of awareness in females may also be a reason.

Nearly three-fifth (83.85 %) of our patients were smokers, next most commonly associated risk factor was tobacco chewing, seen in more than half (51.08 %) of the patients. Rosenquist et al had also mentioned that smoking and alcohol were main associated etiological factors.^[7] A study by Rekha et al also highlights the association of smoking bidis, reverse smoking, and chewing tobacco, betel quid, and areca nut with head and neck cancer.^[8] The effect of tobacco chewing as a major contributory factor, especially in India, has been supported by Baumeister et al.^[9] Alam et al and Castellsague et al also found tobacco consumption as a major risk factor.^[5,10]

It was found that the most common symptom was dysphagia (74 %), followed by neck mass (41.69 %). It was also seen that most of the patients (64.76 %) presented within 6 months of onset of symptoms. Oropharynx contributes to swallowing mechanism and any growth in it will hamper normal swallowing. In our study, it was found that base of tongue was the most common primary site (66.92 %), followed by tonsil (23.54 %).

Oropharyngeal carcinoma is a loco-regional disease; this was evident by the fact that 81.08 % patients had neck nodes. These findings are consistent with those of Henk et al and Jones et al who reported involvement of neck nodes in more than 2/3rd of patients.^[11,12] According to Remmert et al, cervical metastasis was 70% in their study.^[13] About 30 % had bilateral lymph nodes at the time of presentation. Barkley et al also quoted similar findings.^[14] Lymph nodes metastasis is common because of the presence of rich lymphatic drainage.

Most commonly involved were level II lymph node, with highest ipsilateral (71.33%) and contralateral (26%) involvement. Candela et al, Don et al and Da Mosto et al also mentioned level II lymph node to be most frequently involved.^[15-17]

Distant metastasis was not frequently seen, it was noted only in 5 patients (0.77 %). Out of these 5, 4 patients had metastasis to lungs and 1 to liver. Lung as most common metastatic site was reported by Sobin et al.^[18]

Squamous cell carcinoma of the head and neck area is among the most common cancer in India. Oropharyngeal carcinomas, particularly, present late to otorhinolaryngologists probably due to vague initial features. Difficult to access sites (for general physicians) such as base of tongue may further

contribute to late presentation to specialists. The authors assert that public and general physicians must be more careful of even vague throat symptoms or neck masses especially in elderly population. Such patients should be referred early to specialists for prompt diagnosis and treatment.

CONCLUSION

Oropharyngeal squamous cell carcinoma primarily affects the elderly age group with male preponderance. Smoking followed by tobacco chewing were the most commonly associated risk factors. Dysphagia and neck nodes were the most common presentation.

Squamous cell carcinoma of the head and neck area is among the most common cancers in India. Oropharyngeal carcinomas, particularly, present late to otorhinolaryngologists probably due to vague initial features. Difficult to access sites (for general physicians) such as base of tongue may further contribute to late presentation to specialists. The authors assert that public and general physicians must be more careful of even vague throat symptoms or neck masses especially in elderly population. Such patients should be referred early to specialists for prompt diagnosis and treatment.

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