



HISTOLOGICAL SPECTRUM OF HEAD, NECK AND THROAT LESIONS AT A TERTIARY CARE CENTRE

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ABSTRACT **Background:** Head and neck lesions include a spectrum of pathological lesions ranging from simple benign to highly malignant entities. These lesions contribute significantly to morbidity and mortality of patients. The aim of this study was to determine the histological patterns of head and neck lesions, both non-neoplastic and neoplastic and to analyse the data in relation to age, gender, topography. **Methods:** A two year retrospective study was conducted in the Department of Pathology, Dr PSIMS & RF and histopathological data pertaining to all head and neck lesions was reviewed. Each case was analysed with respect to age, gender, site and histological type. **Results:** A total of 139 biopsies from head and neck region were studied over a period of 2 years. Based on Age, Sex, lesions, distribution of different lesions among the biopsies received were studied. Among the biopsies studied Male; female distribution is 72% & 23%. The peak incidence of cases is around 30-40 yrs and 55-65 years. The frequency of different lesions are Infective(28.3%), inflammatory(15.9%), benign (20.3%), malignant(34.1%). **Conclusion:** Head and neck lesions are commonly encountered in patients across all age groups. This region encompasses multitude of congenital, inflammatory & neoplastic lesions. These lesions present clinically as ulcerations or growth which leads to diagnostic challenge because of similar clinical presentation but different histopathological variation. Histopathological examination is gold standard in diagnosis of these lesions and helps in proper management of the patient. We come to the conclusion that site-specific information, morphology and immunohistochemistry is useful in assessing head and neck lesion patterns and aids in the diagnostic challenge faced during the diagnosis and supports baseline information from the institute and the area.

KEYWORDS : Head and neck lesions, inflammatory, malignant, nasal and paranasal sinuses.

INTRODUCTION:

Head and neck lesions are commonly encountered in patients across all age groups and encompass multitude of congenital, inflammatory or neoplastic lesions. These pathological lesions arise at anatomical sites including oral, upper aerodigestive tract, otalgic, thyroid, salivary glands, lymph nodes, skin and soft tissues.

Inflammatory & benign lesions of head and neck region include various cysts and swellings of skin and subcutaneous tissue, Koch's and other inflammations, goiter, salivary gland swellings, lymphadenitis and oral cavity, throat lesions.¹

Malignancies of head and neck are the most common cancers in the world and are important cause of morbidity and mortality in affected patients.¹ The increasing rate of tobacco usage is associated with rising incidence of malignancies of the upper aerodigestive tract in South Asian countries. Head and neck cancer constitutes the third most common type of cancer in India.¹

The nasal cavity and paranasal sinuses occupy the top of the upper respiratory tract and form pneumatic spaces connected with the atmosphere. From this region, exposed to airborne agents, arise some of the more complex and rare benign and malignant lesions seen in humans, whose difficulties in interpretation make this remarkable territory one of the most challenging in the practice of surgical pathology.²

Oral cavity lesions are usually asymptomatic. Most of the lesions are benign with the commonest being lymphoid hyperplasia, retention cyst, inflammation, haemangioma, fibroma etc. Among malignancy, squamous cell carcinoma is the most common pathology. At times early stages of malignancy may mimic benign lesions. This leads to incorrect treatment and thus potentially fatal consequences for the

patient. Proper management of the patient begins with an accurate diagnosis. Histopathology is still the gold standard.³

MATERIAL AND METHODS:

This is a retrospective study done in Department of pathology, Dr PSIMS & RF for a period of 2 years. Biopsies received from ear, nose and throat were studied, H&E stained slides from paraffin embedded blocks were studied and IHC is done whenever required.

RESULTS:

A total of 139 biopsies from head and neck region were studied over a period of 2 years. Male and female distribution frequencies 72.7% and male 27.3, male: female ratio is around 2.66:1.

The distribution of different lesions among the biopsies studied are Infective(28.3%), inflammatory(15.9%), benign (20.3%), malignant(34.1%). The peak incidence of cases is around 30-40 yrs and 55-65 years.

Among the inflammatory lesions polyp is the most common lesion (23%) followed by cholesteatoma(4.3%).

Among the infective lesions chronic non specific inflammation is the most common lesion followed by caseating granulomatous lesion.

Among the benign lesions the most common lesion is angiofibroma (14.9%), followed by pleomorphic adenoma, inverted sinonasal papilloma and vocal cord polyp(2.9%).

Among the malignant lesions the most common lesion is well differentiated squamous cell carcinoma(40%), followed by Dedifferentiated solitary fibrous tumor, Atypical Meningioma, Olfactory Neuroblastoma.

FIGURE 1: PIEDIAGRAM SHOWING FREQUENCY OF DISTRIBUTION IF DIFFERENT TYPES OF LESIONS

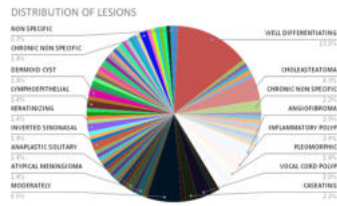
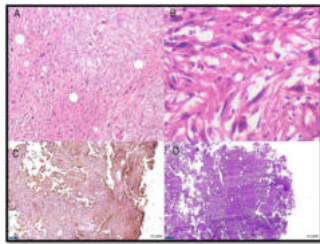
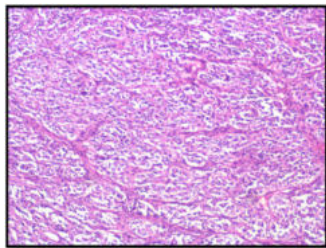


FIGURE 2: A&B :H&E STAINED HISTOPATHOLOGICAL IMAGES AT HIGH POWER SHOWING ANAPLASTIC SOLITARY FIBROUS TUMOR



C&D SHOWS H&E ANDIHC STAINED SLIDES OF ATYPICAL MENINGIOMA

FIGURE 3: H&E STAINED SECTION AT HIGH POWER SHOWING JUGULOTYMPANIC PARAGANGLIOMA



Among the infective lesions in the present study chronic non specific inflammation(3.6%) is the most common lesion followed by caseating granulomatous lesion(2.2%).

In study done by Sharma HB¹³ the most common inflammatory lesion of head and neck are granulomatous lesion which were also seen in the study of neck lesions by Popat et al¹¹. In the tonsils all cases were of chronic tonsillitis except one case of acute tonsillitis. Three of the chronic tonsillitis patients had associated actinomycosis. Singhal et al reported 4 cases of chronic tonsillitis and one tonsillar cancer.¹⁴

Among the benign lesions in the present study the most common lesion is pleomorphic adenoma (14.9%), followed by angiofibroma,(1.4%) inverted sinonasal papilloma (1.4%) and vocal cord polyp(2.9%).

Popat et al¹¹ also reported pleomorphic adenoma as the commonest salivary gland tumor. Parotid gland was the commonest site of tumor in study by Sharma M et al.¹⁵ In study done by Sharma HB parotid gland was the most common salivary gland involved.¹³

Among the malignant lesion in the present study the most common lesion is well differentiated squamous cell carcinoma(40%) followed by moderately differentiated squamous cell carcinoma,the rare cases seen are dedifferentiated solitary fibrous tumor, atypical meningioma, olfactory neuroblastoma.

In a case of mass in paranasal sinuses , on histological examination nasopharyngeal carcinoma schmike type and meningioma were considered , IHC was done and atypical meningioma was established.Meningioma of nose and paranasal sinuses is a very rare tumor. The overall incidence is about 0.1 % of all tumors in the nose and sinuses and less than 2% of all meningiomas.¹⁹

In study done by Sharma HB¹³ The malignant lesions constituted well differentiated squamous cell carcinoma predominantly followed by Moderately differentiated carcinoma and Verrucous carcinoma. Similar lesions were also documented by Kosam and Kujur¹⁶ in their study. Our study was in agreement with Shah and Patel who also report oral cavity as the most common site of malignant lesions of head and neck.¹⁷

Popat et al.¹¹ reported larynx as the most common site of malignancy unlike our study in which oral cavity was the most common site.

Adisa et al concluded that epithelial lineage malignancies (carcinomas) are more common in the head and neck than lymphomas, sarcomas or neuroendocrine tumors in our study we found squamous cell carcinomas as the most common malignancies.

There were many studies done to show the association of risk factors with head and neck cancer.

Studies regarding Distribution of various lesions in head and neck region studies were done in central India and north India and they have showed higher incidence of benign lesions when compared with other type of lesions.

In the present study we have seen more percentage of malignant lesion when compared with benign lesions.

CONCLUSION:

The present study was done at a tertiary care centre in south India and we have studied the distribution of different lesions in this demographic region.The head and neck lesions present clinically as ulcerations or growth which leads to diagnostic challenge because of similar clinical presentation but different histopathological variation.Hence , Histopathological examination is gold standard in diagnosis of these lesions and helps in proper management of the patient. Of all the lesions studied in this area squamous cell carcinoma is the most common lesion seen followed by , pleomorphic adenoma, nasal polyp , cholesteatoma , angiofibroma , vocal cord polyp . Correlating the clinical history, radiological investigations, and IHC these findings helps in increasing the sensitivity and specificity of reporting the lesion.

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DISCUSSION :

A total of 139 biopsies from head and neck region were studied over a period of 2 years. Male and female distribution was 72.7% and 27.3, (M:F) ratio is around 2.66:1. Sharma k et al In a similar study reported, (M:F) ratio of 1.37:1. Other studies by ranjan aggarwal³ &Khan et al.⁵ showed Male: Female ratio of 3.3:1 which varied slightly from present study.

The age group distribution is between 5-86 years similar to study by Parajuli and Tuladhar⁶ and Kulkarni et al.⁷ In another study conducted by Urooj A et al⁹, the age ranged between 1.5 to 80 years, which varied slightly from present study.The peak incidence of cases is around 30-40 yrs and 55-65 years similar with study by Lei F et al.⁸ In the present study, the distribution of different lesions among the biopsies studied are Infective(28.3%), inflammatory(15.9%), benign (20.3%), malignant(34.1%) which is slightly similar to study done by ranjan aggarwal.³

The non neoplastic distribution of lesions is similar to study done by vartak UC⁴ which showed 50.3% distribution in non neoplastic lesions. Other studies done by Khan et al.⁵ Kulkarni et al.,⁷ and Garg and Mathur,¹² observed similar distribution in nonneoplastic lesions.

Histopathologically distribution of lesions In the study done by Sharma k¹ were broadly grouped into benign, inflammatory and malignant accounting for 53.79%, 24.13% and 22.06% respectively. However, study by Kanu OO et al¹⁰, showed more number of benign cases (63.3%) which is slightly different from our study.

The benign lesions were more frequent in the age group of 20 to 50 years while higher percentage of malignant lesions belonged to age group of 51 years and above in our study. These observations were in agreement with the findings of Popat V et al.¹¹

Among the inflammatory lesions polyp are the most common lesion seen around 23% followed by cholesteatoma(4.3%).

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