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HISTOPATHOLOGY STUDY OF MASS LESIONS OF THE UPPER RESPIRATORY TRACT PRESENTING TO A TERTIARY CARE CENTRE WITH UPDATES FROM THE WHO V EDITION CLASSIFICATION OF TUMOURS OF HEAD AND NECK.

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Abstract:

Introduction: Mass lesions of the upper respiratory tract are commonly encountered specimens in the histopathology department. The Vth edition of the World Health Organisation (WHO) Tumours of the Head and Neck released in 2022 presents updates relevant to the practicing pathologist.

Material and methods: Specimens from upper respiratory tract mass lesions received in our department over a 18 month period from February 2022 to July 2023 were studied retrospectively and the incidence of benign and malignant entities was documented. **Results**: A total of 191 specimens from the upper respiratory were received,139 cases were classified as benign and 52 cases as malignant according to the WHO V Edition. **Conclusion**: Accurate histopathological diagnosis of mass lesions of upper respiratory tract, especially in small biopsies, is integral to patient management.

Keywords: Mass lesions, Upper respiratory tract, WHO Vth edition, updates.

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Introduction:

The present study attempts to present the incidence of the wide variety of pathological entities that occur in this anatomical region.[1][2][3].The recently released WHO classification of head and neck tumours Vth edition has incorporated updates based on extensive discussion among expert pathologists and current scientific evidence. [4]

Material and methods:

The patient demographic data, clinical details and histopathology diagnosis were obtained from the patient records in our department.The histopathology specimens were grossed and processed based on standard protocol. The slides were stained with haematoxylin and eosin.

Results:

A total of 191 cases were received in our department during an 18 month period between February 2022 and August 2023. The male:female ratio was 65:125 (1:2). The commonest age group involved was the 40-49 year age group (Table 1). The commonest site was the sinonasal tract (Table 2). The type of specimens included small biopsies, Functional endoscopic sinus surgery, Microlaryngeal surgery, Polypectomy, Tonsillectomy, Maxillectomy and Mandibulectomy and Total Laryngectomy. There were 139 (72%) benign entities and 52 (28%) malignant entities (Table 4). The commonest benign entity was Inflammatory polyp (14%) (Fig 1) and the commonest malignant entity was Squamous cell carcinoma (23%) (Fig 3 and 4). There was a high degree of concordance between clinical and histopathological diagnosis with only one malignant lesion misdiagnosed as granulomatous inflammation.

Table 1. Age distribution:

1-9	16
10-19	28
20-29	24
30-39	28
40-49	35
50-59	26
60-69	20
70-79	13
80-89	1

Table 2. Site distribution:

Sinonasal tract(n=50)(26%)	
Nasal cavity	33
Maxillary sinus	05
Ethmoid sinus	12
Oral cavity(n=48)(25%)	
Tongue	20
Buccal mucosa	10
Lip	06

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Soft palate	03
Hard palate	01
Tooth	01
Gingivobucal sulcus	05
Floor of mouth	01
Retromolar trigone	01
Adenotonsil(n=31)(16%)	31
Pharynx(n=11)(5%)	
Oropharynx	04
Nasopharynx	06
Hypopharynx	01
Larynx(n=24)(12%)	
Supraglottis	03
Vocal cord	20
Subglottis	01
Middle ear and mastoid(n=12)(6%)	12
Maxillary bone	08
Mandibular bone	01

Table 3. Type of specimen

Small biopsies	75
Excision specimens (including Functional endoscopic sinus surgery, Microlaryngeal surgery, Polypectomy, Tonsillectomy, Maxillectomy and Mandibulectomy and Total Laryngectomy)	116

Table 4. Histopathology diagnosis

Benign (n=139)	
Mucus retention cyst	05
Benign duct cyst	01
Chronic inflammation	27
Reactive hyperplasia	31
Allergic polyp	12
Inflammatory polyp	26
Mucor	14
Aspergillus	01
Vocal cord nodule	06
Hamartoma	01
Pyogenic granuloma	01
Melanosis	01

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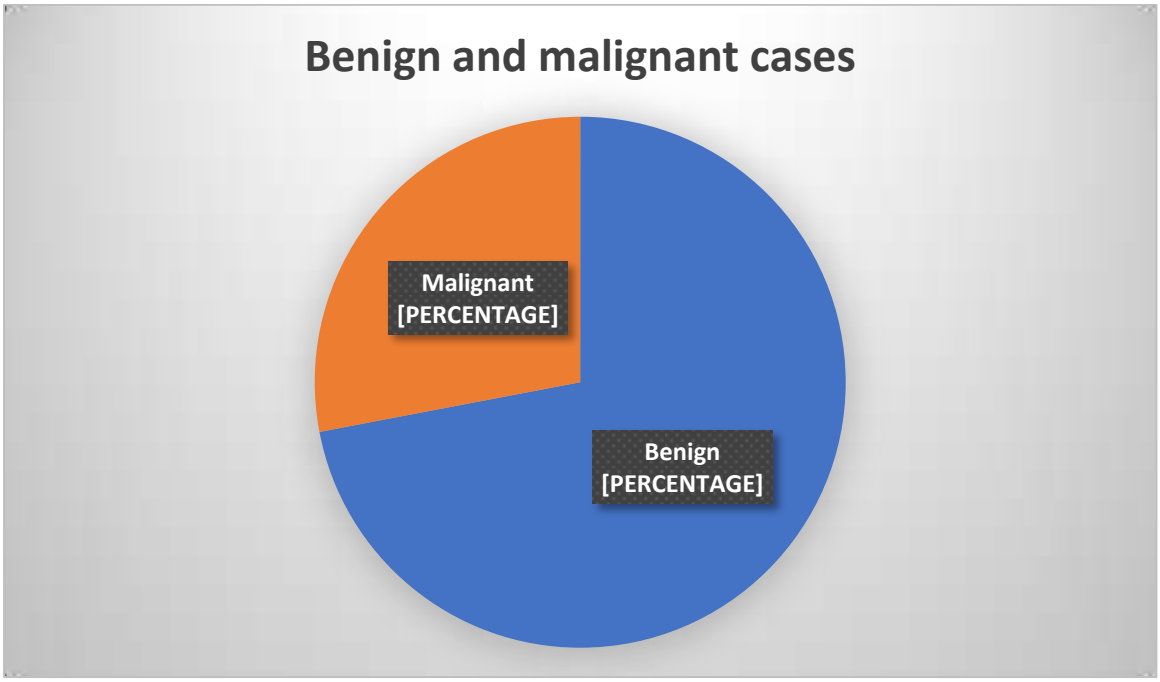
Reparative granuloma	01
Submucosal fibrosis	01
Cholesteatoma	07
Sinonasal tract Angiofibroma	01
Dentigerous cyst	01
Aural polyp	01
Laryngeal cyst	01

Malignant (n=52)	
Low grade dysplasia	01
High grade dysplasia	02
Keratinising Squamous cell carcinoma (well differentiated)	25
Keratinising Squamous cell carcinoma, (moderately differentiated)	18
Non keratinising Squamous cell carcinoma, (poorly differentiated)	02
Acantholytic Squamous cell carcinoma	01
Ameloblastic carcinoma	01
Nasopharyngeal carcinoma	01
Intestinal type sinonasal adenocarcinoma	01



Discussion:

Mass lesions are a common mode of presentation of disease entities in the Otolaryngology department of tertiary care centres. They include a spectrum of hamartomatous, inflammatory and neoplastic benign and malignant entities. The limited tissue in small biopsies can present a challenge to the diagnosis of these entities.

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The present edition of the WHO has incorporated significant updates based on current scientific evidence.

In the section of nasal and paranasal tumours, there are two new entities: SWI/SNF complex-deficient sinonasal carcinoma and HPV-related multiphenotypic sinonasal carcinoma, which were both provisionally included in the fourth edition as SMARCB1-deficient sinonasal carcinoma and HPV-related carcinoma with adenoid cystic-like features, respectively.

To reflect improvements in clinical, histological, and molecular findings, the definitions of oral potentially malignant diseases and oral epithelial dysplasia (OED) have been broadened. OED dysplasia grading is still debatable because different grading systems are used in various parts of the world. A diagnosis of dysplasia may now be made based only on additional architectural elements that have been added to the criteria for grading. OED maintains a three-tiered grading structure while acknowledging the oversimplification of this approach.

The term HPV-associated dysplasia (HPVOED) has been categorized as a distinct entity from the term conventional OED due to increased characterisation and to be consistent with categorization at other body sites.

The new tumor entities in the nasopharyngeal tumour area are the hairy polyp, salivary gland anlage tumor, low grade nasopharyngeal papillary adenocarcinoma, and nasopharyngeal carcinoma.

A two- to three-tiered classification of low-grade and high-grade dysplasia and carcinoma in situ is suggested in the section on hypopharynx and laryngeal tumors. Recent research has identified NANOG, a stem cell precursor marker, as a new possible diagnostic and prognostic marker for these lesions.

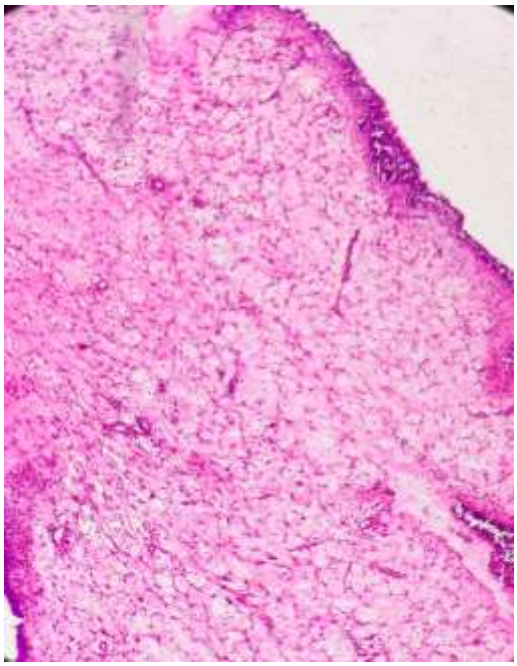

Fig 1. Inflammatory nasal polyp

(H and E, 10X)

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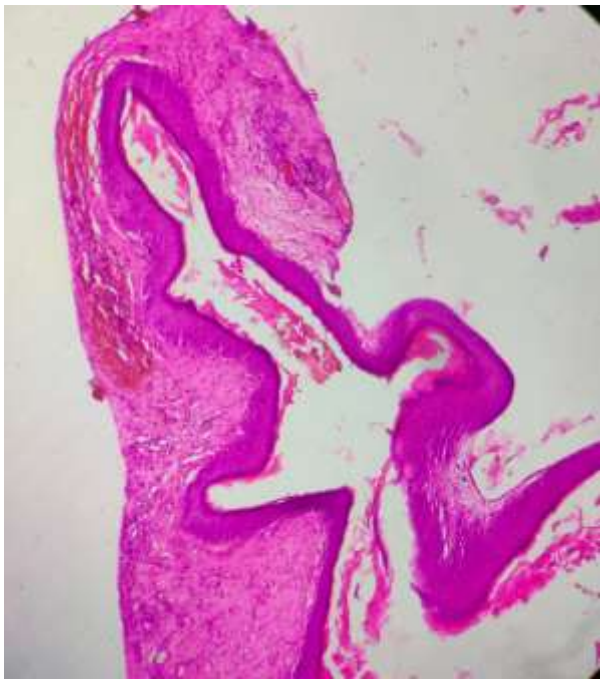

Fig 2.Cholesteatoma (H and E,10X)

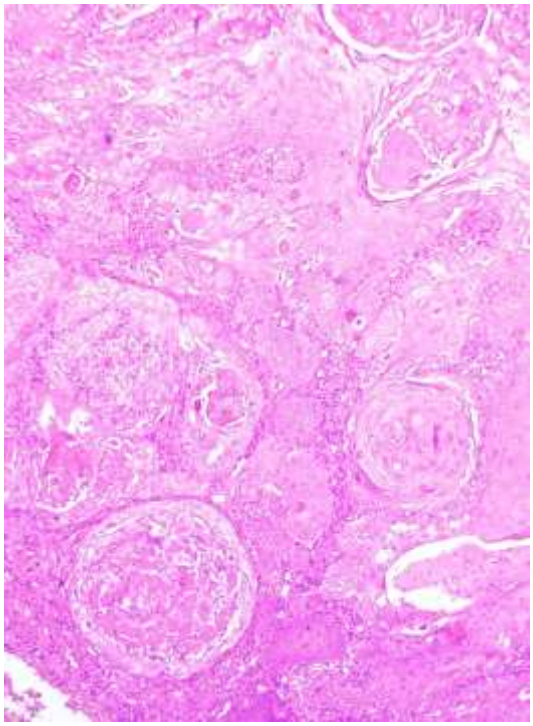

Fig 3. Well differentiated squamous cell carcinoma (H and E, 10X)

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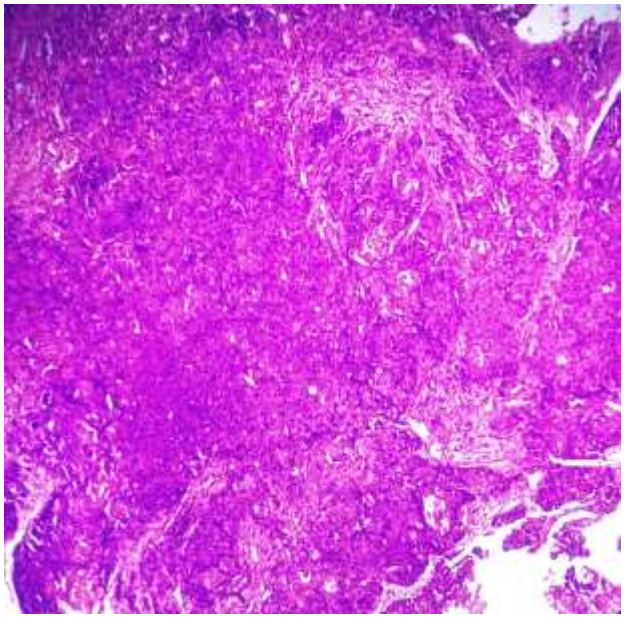

Fig 4. Moderately to poorly differentiated squamous

cell carcinoma (H and E, 10X)

References:

1. Kaur, I., Auplish, R., Bedi, S., Vashista, K. D., & Dutta, G. (2017). A Study of Histopathological Spectrum of Masses Arising From Upper Respiratory Tract in A Rural Tertiary Care Centre: A Study of Histopathological Spectrum of Masses Arising From Upper Respiratory Tract. *National Journal of Integrated Research in Medicine*, *8*(3), 1–6. Retrieved from http://www.nicpd.ac.in/ojs-/index.php/njirm/article/view/1234.

2. Shirazi N, Bist SS, Selvi TN, Harsh M. Spectrum of Sinonasal Tumors: A 10-year Experience at a Tertiary Care Hospital in North India. Oman Med J. 2015 Nov;30(6):435-40. doi: 10.5001/omj.2015.86. PMID: 26674709; PMCID: PMC4678446.

3. Taghipourzahir S, Farzadimoghadam n. Clinicopathological characteristics of benign and malignant lesions of upper respiratory tract from 2006 to 2016 in yazd, iran (a descriptive-analytical study). Studies in Medical Sciences 2022; 33 (7) :478-484

4. WHO Classification of Tumours Editorial Board. Head and neck tumours. Lyon (France): International Agency for Research on Cancer; forthcoming. (WHO classification of tumours series, 5th ed.; vol. 9). https://publications.iarc.fr.