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Prevalence of Different Oral Lesions: A Retrospective Institutional Study

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Abstract
This retrospective study examines the prevalence and spectrum of oral lesions diagnosed at a single dental institution from over a period of year in 2023. By reviewing clinical and pathological records, we sought to identify the most frequently encountered lesions, discuss their clinical implications, and highlight the importance of early detection. Overall, the data suggest a significant number of odontogenic cysts and reactive lesions, as well as a smaller proportion of malignant or potentially malignant entities, underscoring the multifaceted nature of oral pathology. This article presents detailed findings to assist clinicians, researchers, and public health professionals in understanding current trends in oral lesion presentation and management.
Keywords: *Oral health, Odontogenic cyst, Retrospective study, potentially malignant, reactive lesions*

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I. INTRODUCTION

Oral lesions encompass a wide array of pathologies ranging from developmental cysts to reactive proliferations and neoplastic processes. They may arise due to local irritants, infections, systemic factors, or underlying genetic predispositions.[1] In many populations, lifestyle habits such as poor oral hygiene, tobacco use, and betel quid chewing can exacerbate or accelerate these conditions.[2] Despite ongoing efforts to improve preventive care, dental professionals continuously encounter numerous oral lesions. Some of which carry a risk of malignant transformation. Retrospective studies are essential in providing baseline information on the incidence and distribution of these conditions, thereby guiding clinicians in devising timely diagnostic, preventive, and therapeutic measures[3]. The present study offers a comprehensive overview of the oral lesions recorded in Department of Oral Pathology and Microbiology, Pacific dental College and Hospital (PDCH), Udaipur, India over a period of one year. By exploring the prevalence of various lesion categories—cystic, neoplastic, reactive, inflammatory, and others—this study highlights the complexity of oral pathology and reinforces the importance of systematic surveillance and intervention.

II. MATERIALS AND METHODS

The study was conducted by analyzing patient records from January to December 2023 at the Department of Oral Pathology and Microbiology, Pacific dental College and Hospital (PDCH), Udaipur, India. All individuals with clinically or radiographically significant oral lesions, confirmed through biopsy or detailed clinical notes, were included. Data were extracted from departmental registers and electronic health records, ensuring that each entry provided a clear diagnosis. Lesions were then categorized based on their pathological nature: odontogenic cysts, odontogenic tumors, pseudocysts (lacking an epithelial lining), reactive lesions, and other specific conditions. This categorization allowed a systematic assessment of frequency and patterns of occurrence. Information related to the patient's age, gender, and relevant clinical history was collected when available. Ethical Clearance was obtained from institute and it was upheld by maintaining patient confidentiality and using de-identified information throughout the data collection and analysis process.

III. RESULTS

In total, 124 lesions were documented during the 12-month period. Odontogenic cysts were the most frequently encountered entity, with 48 confirmed cases. Among these, radicular cysts were commonly reported, though specific subtyping was not always detailed in the patient charts. Reactive lesions were the second most common finding, comprising 39 cases. These generally included fibrous hyperplasia, inflammatory lesions, peripheral giant cell lesions, central giant cell lesions, pyogenic granulomas, granulation tissues, macules triggered by inflammation or irritation. Odontogenic tumors, numbering 8 in total, including ameloblastomas, odontomas, and ademtoid odontogenic tumors were notable for their potential aggressive behaviour if not diagnosed and managed promptly. Pseudocysts, which are often distinguished from true cysts by the absence of an epithelial

lining, accounted for 3 of the recorded lesions including ameurysmal bone cyst and mucocele. A cluster of 10 periapical granulomas reflected the ongoing challenge of unresolved endodontic or periapical infections.

Less commonly, a variety of singular diagnoses were observed, including pericoronitis (1 case), plasmacytoma (1), verrucous hyperplasia (2), epithelial dysplasia (4), dentinal follicle (1), lymph node hyperplasia (1), chronic gingivitis (1), necrosed bone (1), carious tooth with dilacerated root (1), dilacerated tooth (1), osteomyelitis (1), fibrous dysplasia (1), and 1 case of periapical infection that progressed to granulomatous changes. Though small in number, the presence of conditions like plasmacytoma, verrucous hyperplasia, and epithelial dysplasia underscores the wide pathological spectrum seen in routine practice and the importance of vigilance for lesions with malignant or systemic implications.

IV. DISCUSSION

In our study of oral lesion records from January to December 2023, odontogenic cysts (48 cases) and reactive lesions (39 cases) appeared most frequently. This outcome correlated with the findings from other Indian studies conducted in different locations. For example, **Mehrotra et al. (2010)[7]** worked in Vidisha, a semi-urban district in Central India, and noted many cases of radicular cysts from long-standing dental infections. Similarly, **Bhatnagar et al. (2013)[2]** examined patients at a dental college in Modinagar, Uttar Pradesh, and saw a high number of inflammatory cysts and fibrous growths, also pointing to the importance of need to treat pulp and gingival lesions early.[6]

A study in Nepal by **Gupta et al. (2023)[5]** likewise reported many reactive lesions triggered by irritation from plaque, tartar, or ill-fitting restorations. In our data, 39 such lesions included fibromas, gingival enlargements, and granulomas. Although we found only 10 periapical granulomas, a report by **Ali et al. (2013)[4]** from the Kuwait University Dental Center highlighted similar infections as a main cause for granulomas and cysts in patients who did not receive prompt endodontic treatment. While the presence of fibromas and other reactive growths finding are similar with findings from **Upadhyaya et al. (2015)[16]** in Bhopal's slums, who noted that local irritants and tobacco habits often contribute to gingival and buccal mucosa lesions. Outside India, **Goodson et al. (2017)[10]** discussed brushing cytology as an auxiliary diagnostic tool to track and confirm dysplastic changes, suggesting that modern methods can detect abnormal cells in suspicious patches before they become advanced

We also noted **eight odontogenic tumors**, which can become locally aggressive if not recognized in time.[8,9] A study by **Pahwa et al. (2018)[1]** in Udupi Taluk of coastal Karnataka also detected fewer benign odontogenic tumors compared to other types of oral lesions, yet they stressed on the need for careful diagnosis. Our data included various diagnoses such as **plasmacytoma**, **verrucous hyperplasia**, and **epithelial dysplasia**, matching the similar findings reported by **Saraswathi et al. (2006)[6]** in Chennai, India. Though these conditions were rare, they remind us that many different pathologies can appear in the oral cavity, and every suspicious lesion needs proper evaluation.[11-14]

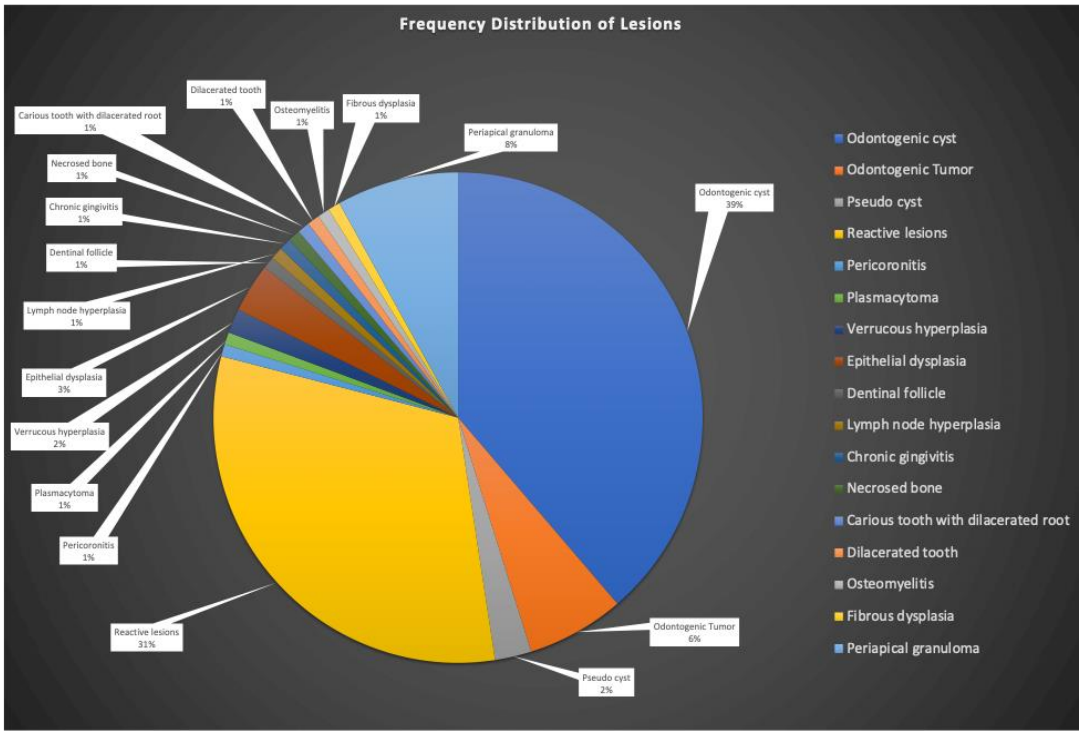
We found **epithelial dysplasia** (4 cases) and **verrucous hyperplasia** (2 cases) in small numbers, but they still point to the need for early detection of precancerous changes. In Vidisha, **Mehrotra et al. (2010)[7]** observed that premalignant lesions were relatively few, yet it was vital to catch them in the initial stages. **Byakodi et al. (2011)[19]**, who worked in Sangli (Western Maharashtra), also reminded us that even lesions that look harmless might have early abnormal cell changes.

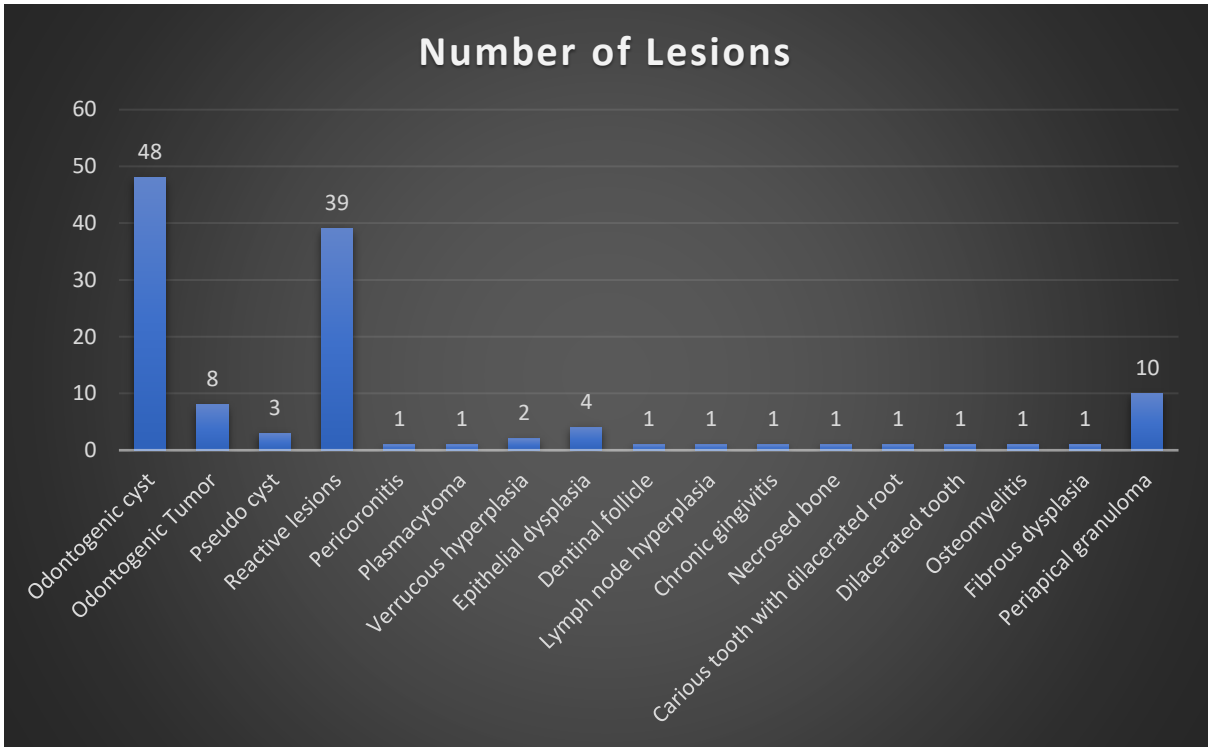
Overall, our observations match results from various dental clinics and hospitals across India and other regions. Odontogenic cysts and reactive lesions remain the most common problems.[15] Even though premalignant or unusual lesions are less common, they need close attention and thorough testing as they have higher potential turn into life threatening conditions. Encouraging people to get regular dental check-ups and providing timely treatments, specially for gingival lesions and pulp infections can stop these conditions from worsening.

V. CONCLUSION

The results of this retrospective analysis underscore the diversity of oral lesions encountered in a typical institutional setting and emphasize the clinical imperatives of thorough evaluation, early detection, and targeted management. Although the majority of cases involved cystic or reactive processes, the existence of tumorigenic or precancerous lesions illustrates the ever-present risk of delayed or overlooked pathologies progressing toward more serious outcomes. Dental practitioners should remain alert to subtle changes in the oral environment, particularly in populations with known risk factors such as tobacco use, poor oral hygiene, and untreated dental caries. Preventive strategies, including patient education and regular screening programs, can greatly reduce the burden of advanced disease. Further research, ideally with larger sample sizes and prospective designs, is warranted to establish trends over extended periods and to refine our understanding of etiopathogenesis, especially for rare or aggressive lesions.

Lesion Type	**Frequency (n)**	**Percentage (%)**
Odontogenic cyst	48	38.71
Odontogenic Tumor	8	6.45
Pseudo cyst	3	2.42
Reactive lesions	39	31.45
Pericoronitis	1	0.81
Plasmacytoma	1	0.81
Verrucous hyperplasia	2	1.61
Epithelial dysplasia	4	3.23
Dentinal follicle	1	0.81
Lymph node hyperplasia	1	0.81
Chronic gingivitis	1	0.81
Necrosed bone	1	0.81
Carious tooth with dilacerated root	1	0.81
Dilacerated tooth	1	0.81
Osteomyelitis	1	0.81
Fibrous dysplasia	1	0.81
Periapical granuloma	10	8.06
Total	124	**100%**





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