

Retrospective Study of Pediatric Oral Lesions in Rural Areas in District Etawah, Uttar Pradesh

Rahul Mishra¹, Atul K Singh²

ABSTRACT

Aim and objectives: The aim of the study was retrospective comparative evaluation of past 3 years' pediatric oral lesions diagnosed from the Department of Dentistry, UPUMS, Saifai, Etawah, and classification and identification of pediatric oral lesions on the basis of demographic features and histopathological features.

Materials and methods: The present retrospective comparative evaluation was done with the help of the last 3 years' histopathological reports obtained from the Department of Dentistry, U.P. University of Medical Sciences, Saifai, Etawah. Pediatric patients of age 0–17 years divided in three groups included in the study.

Results: In our department, out of total 450 histopathological reports, 56 reports were of pediatric cases in which males were 38 and females were 18. Pediatric patients were further divided into three categories: primary dentition period (0–5 years), mixed dentition period (6–12 years), and permanent dentition period (13–17 years).

Conclusion: This retrospective study is an effort for classifying and identifying pediatric oral lesions on the basis of demographic features and histopathological features. The majority of the oral lesions detected were benign in nature.

Keywords: Oral biopsies, Pediatric oral lesions, Retrospective study.

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INTRODUCTION

Pediatric patients exhibit several oral lesions including hard and soft tissue lesions of the oral maxillofacial region. Many of these are unique in that they correlate with specific definable age groups. Optimal oral health is very important factor for individual overall general medical health. Against trauma, pathogens, and carcinogenic agents, the oral mucosa acts as a protective barrier.¹ As compared to adult oral lesions, pediatric oral lesions differ in relation to growth and development, as well as some specific factors that are predominant in the pediatric age group, such as vascular cancerous lesions and specific lymphomas. Oral lesions usually affect general health of pediatric patients by affecting normal function of the oral cavity such as mastication, swallowing, and speech and leading to multiple oral problems such as xerostomia, halitosis, or dysesthesia.²

The information regarding prevalence of pediatric oral lesions is less. These lesions include mucosal conditions, developmental anomalies, neoplastic, reactive, or inflammatory lesions. This aids timely diagnosis of both usual and rare oral tissue presentation in pediatric patients. Hence, the present retrospective study is done in the Department of Dentistry to comparatively evaluate the pediatric oral lesions and its classification and identification on the basis of demographic features (age, sex, incidence, prevalence site) and histopathological features in pediatric patients in the rural population of district Etawah, U.P.

MATERIALS AND METHODS

The present retrospective comparative evaluation was done with the help of the last 3 years' histopathological reports obtained from the Department of Dentistry, U.P. University of Medical Sciences, Saifai, Etawah. Patients below the age of 17 years were included in the study. Total number of pediatric histopathological reports obtained below the age of 17 years were classified on the basis

^{1,2}Department of Dentistry, Uttar Pradesh University of Medical Sciences, Saifai, Etawah, Uttar Pradesh, India

Corresponding Author: Atul K Singh, Department of Dentistry, Uttar Pradesh University of Medical Sciences, Saifai, Etawah, Uttar Pradesh, India, Phone: +91 9452074514, e-mail: dratul.148@gmail.com

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of demographic features such as age, sex, and site predilection and based on histopathology reports, the type of pediatric oral lesions were identified. In total 450 histopathological reports, 56 were identified as pediatric reports. On basis on their age, gender, site, and pathological diagnosis, pediatric histopathological reports were further categorized into two groups based on age and histopathologic diagnosis. Based on the dentition period, pediatric patients were divided into three categories: primary dentition period (0–5 years), mixed dentition period (6–12 years), and permanent dentition period (13–17 years). The histopathologic diagnoses were classified under three categories: cystic lesions, reactive/tumor-like lesions, and neoplastic lesions. All oral histopathological reports of patients below 17 years between the years 2015 and 2018 were included in the study.

RESULTS

Based on 450 histopathological reports in our department, total 56 pediatric cases were identified in which based on sex, male were 38 and females were 18 (Table 1) and based on age groups, 14 patients were in the age group 0–5 years, 20 patients were between 6 years

Table 1: Sex-wise distribution

Sex	No. of the cases
Males	38
Females	18

Table 2: Age-wise distribution

Age group	No. of the cases
0–5 years	14
6–12 years	20
13–17 years	22

Table 3: Site-wise distribution

Site of the lesion	No. of the cases
Maxilla	6
Mandible	8
Tongue	12
Lip	10
Buccal mucosa	8
Palate	6
Floor of the mouth	6
Total	56

Table 4: Distribution of the lesions

Oral pathologies	Total	Male	Females
Odontogenic cysts	18	12	6
Nonodontogenic cyst	12	10	2
Odontogenic tumors	8	6	2
Mucocele	6	3	3
Fibro-osseous lesions	6	2	4
Benign tumors	4	3	1
Premalignant conditions	2	2	0

and 12 years, and 22 were between 13 and 17 years (Table 2). Based on the site of the lesion, 12 on the tongue, 10 on the lip, 8 in the mandible, 8 on the buccal mucosa, 6 in the maxilla, 6 on the palate, and 4 on floor of the mouth (Table 3). Based on histopathological diagnosis, 54 were benign in nature and only 2 were premalignant conditions in which 18 odontogenic cysts, 12 nonodontogenic cysts, 8 odontogenic tumors, 6 mucocele, 6 fibro-osseous lesions, 4 benign tumors, and 2 premalignant conditions (Table 4). Based on above data, distribution of different oral pathologies according to age and sex was done.

DISCUSSION

There is only few studies of oral pediatric pathologic lesions having a significant health problem with considerable morbidity.¹ Different Indian studies were done regarding the prevalence rate of oral pathology such as Sandeepa et al.³ (42.2%) and Mathew et al.⁴ (41.2%), 11.33% by Shivakumar et al.⁵ and Patil et al.⁶ (64%). In 1986, Skinner et al.⁷ studied 1,525 oral biopsies of blacks and whites of age 0–20 years from Louisiana. Later in 1990, Keszler et al.⁸ reported 1,289 biopsies without mentioning race in children of 0–15 years from Argentina.

In our study, the pathologies were more common in males in contrast to many studies such as Gütelkin et al.⁹ in 2003, Das and Das¹⁰ in 1993, and Jones and Franklin¹¹ in 2006, which showed an almost equal distribution between both genders (M:F = 1.05:1).

The present study was done on 56 pediatric reports out of 450 histopathological reports of 3 years' surgical cases in our department. It is very difficult to determine age range in which pediatric oral lesions occur most frequently as different studies consider different age range, e.g., some studies consider age range 0–15 years, whereas others studies include older children.¹² As in the studies of Das and Das⁹ and Chen et al.,¹³ the present study shows similar finding, i.e., in the 6–12 years age group and 13–17 years age groups, most of the pediatric oral lesions occurred. Whereas, other authors like Maia et al.¹⁴ and Saxena et al.¹⁵ demonstrated that most pediatric oral lesions occur in the mixed dentition period. In our study, the mandible was found to be more affected than the maxilla in contrast to studies conducted by Maia et al.¹⁴ and Lima et al.,¹⁶ where they reported the maxilla as the most common site of occurrence.

In our study based on histopathologic diagnosis among the 56 histopathologies analyzed, only 2 were premalignant conditions (3.6%) while all the remaining 54 were benign (96.4%) similar to study done by Bhaskar¹⁷ reported in children up to 14 years of age; out of 293 oral tumors 91% of the tumors were benign and 9% malignant in nature. In 1973, Dehner¹⁸ studied 46 tumors of the mandible and maxilla from age 3 months to 15 years Later on in 1979, Khanna and Khanna¹⁹ reported 24 pediatric tumors of the jaws.

In the present study, two males were diagnosed with premalignant conditions, i.e., oral submucous fibrosis. Smokeless tobacco use is very common in this region especially in young adults, which may be due to low socioeconomic status and tobacco availability in form of gutkha, zarda, and khaini. Tobacco-containing products usually are chewed or sucked as a quid or placed in the vestibule/buccal mucosa of the oral cavity. Tobacco pouch keratosis is a condition that results from habitual placement of tobacco in the direct contact of mucobuccal fold of the mandibular jaw from the anterior to buccal region. The development of this lesion strongly depends on early onset, frequency, type, and quality of tobacco use, daily usage quantity, and number of placement sites routinely used for tobacco.²⁰

CONCLUSION

Parents often are concerned with oral lesions of children. As pediatricians are first clinicians who examine pediatric patients, so they should be able to distinguish any abnormality in the oral cavity such as gingivitis, periodontal abnormalities, and oral lesions as compared to normal clinical appearance of the pediatric oral cavity. This retrospective study is to classify and identify commonest pediatric oral lesions on the basis of demographic features and histopathological features. In our study, majority of the oral lesions detected were benign in nature as compared to a few premalignant lesions. This information can help determine the epidemiology, severity, and also help identify potential etiological factors for oral lesions. Furthermore, in spite of knowledge and awareness toward tobacco use, the addiction level for tobacco is very high and they want to quit this habit but unable to quit in the absence of any guidance and counseling. Our comparative evaluation also serves as a baseline for larger sample size studies to improve overall oral health of children.

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