ORIGINAL RESEARCH

Evaluation of Incidence of Oral Pediatric Pathologies: An Institutional Based Study

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ABSTRACT
Background: Detection of oral lesions may be much more difficult than skin lesions because they are less visible and, on the other hand, often do not make a difference in color with the surrounding mucosa. Hence, the present study was conducted to assess the incidence of oral pediatric pathologies. **Material &Methods:** The present study was conducted in Amaltas Institute of Medical Sciences, Dewas, Madhya Pradesh (India) to assess the incidence of oral pediatric pathologies.A total of 75 biopsies were assessed.The available data were divided into seven groups according to age, sex, site, inflammatory/reactive, cystic, neoplastic, and others (infections). **Results:** In the present study, total 75 biopsies were assessed. In age group 0-4 years maximum biopsies were of females (8%), in age group 5-8 years (14.66%) and 9-13 years (38.66%) maximum biopsies were of males. Maximum biopsies assessed were of males (45%). Maximum biopsies assessed were of mandible (33.33%) followed by lip (20%). 60% biopsies were intraosseous and 40% were extraosseous. Maximum biopsies were of Inflammatory/reactive lesion (46.66%) followed by Cystic odontogenic (21.33%).In inflammatory/ reactive lesion, maximum biopsies were of Mucocele (22.66%). In Cystic odontogenic, maximum biopsies were of Dentigerous cyst (8%). **Conclusion:** The present study concluded thatmaximum biopsies assessed were of males. Maximum biopsies assessed were of mandible, maximum biopsies were intraosseous. Maximum biopsies were of Inflammatory/reactive lesionfollowed by Cystic odontogenic.

Keywords: Inflammatory, Reactive Lesion, Cystic Odontogenic, Mucocele.

INTRODUCTION

Identification of oral lesions plays a major role to achieve better treatment plans for patients with a wide age range including pediatrics.[1] Various factors such as local factors, systemic disease, neoplasms, physical and chemical injuries and inflammatory conditions influence oral lesions.[2,3] The prevalence of oral lesions in children is not that uncommon and rare as many clinicians may presume. Its incidence varies between research from 4.1% up to 69.5%.[4,5] Diagnosis and rapid treatment of these oral lesions are so important. Lesions that mostly manifest in pediatrics are developmental, benign, and malignant tumors as well as reactive, inflammatory, and traumatic lesions.[6] Therefore, the adequate knowledge of practitioners about the types and prevalence of oral lesions in the pediatric population is essential for proper diagnosis, and hence appropriate therapy.[7-10] The types and symptoms of oral lesions observed in children differ from those observed in adults or seniors.[11] Epidemiological studies on the incidence and prevalence of pediatric pathologies are far and few with many data pertaining to any one particular pathological entity.[12,13] Hence, the present study was conducted to assess the incidence of oral pediatric pathologies.

MATERIALS & METHODS

The present study was conducted in Amaltas Institute of Medical Sciences, Dewas, Madhya Pradesh (India) to assess the incidence of oral pediatric pathologies.All biopsies of patients aged 13 and below, both soft and hard tissue pathologies were included in the study.A total of 75 biopsies were assessed. All cases of dental caries, impaction, pulpitis, pericoronitis, and supernumerary teeth,

Incomplete data with respect to age, gender, or histopathological diagnosis, multiple specimens from one patient were treated as one lesional tissue specimen were excluded from the study. The available data were divided into seven groups according to age, sex, site, inflammatory/reactive, cystic, neoplastic, and others (infections). Categories were made within the age group to assess lesional distribution based on the developmental stage to represent children as infants (0–4 years), child (5–8years), and preadolescent (9–13years), respectively. The area of affliction along with whether it was an intraosseous or extraosseous lesion was taken into account for site anatomy. Under the cystic group, the lesions were analyzed based on whether they are odontogenic (inflammatory/developmental)/nonodontogenic. The neoplastic lesions were further classified under odontogenic benign/malignant and non-odontogenic benign and malignant. All other lesions such as infections and torus were grouped under others.

RESULTS

In the present study, total 75 biopsies were assessed. In age group 0-4 years maximum biopsies were of females (8%), in age group 5-8 years (14.66%) and 9-13 years (38.66%) maximum biopsies were of males. Maximum biopsies assessed were of males (45%).

Maximum biopsies assessed were mandible (33.33%) followed by lip (20%). 60% biopsies were intraosseous and 40% were extraosseous.

Maximum biopsies were of Inflammatory/reactive lesion (46.66%) followed by Cystic odontogenic (21.33%).In inflammatory/ reactive lesion, maximum biopsies were of Mucocele (22.66%). In Cystic odontogenic, maximum biopsies were of Dentigerous cyst (8%).

Table 1: Pediatric case distribution according to age with sex incidence

Age distribution	Males	Females	Total no. of cases
0-4 years	5(6.66%)	6(8%)	11(14.66%)
5-8 years	11(14.66%)	9(12%)	20(26.66%)
9-13 years	29(38.66%)	15(20%)	44(58.66%)
Total	45(60%)	30(40%)	75(100%)

Table 2: Distribution of anatomical (site/intraosseous/ extraosseous involvement)

SITE	Total no. of cases (%)
Maxilla	10(13.33%)
Mandible	25(33.33%)
Lip	15(20%)
Tongue	6(8%)
Palate	5(6.66%)
Face/cheek	9(12%)
Gingiva	6(8%)
Total	75(100%)
Intra-/extraosseous	
Intraosseous	45(60%)
Extraosseous	30(40%)

Table 3: Distribution of all biopsied lesions based on histopathological diagnosis

PATHOLOGIC LESIONS	Total no. of cases (%)
INFLAMMATORY/REACTIVE LESION	35(46.66%)
Mucocele	17(22.66%)
Pyogenic granuloma	3(4%)
Fibro epithelial hyperplasia	11(14.66%)
Periapical granuloma	3(4%)
Fibromatosis gingivae	1(1.33%)
CYSTIC ODONTOGENIC	16(21.33%)
Periapical cyst	5(6.66%)
Odontogenic keratocyst	4(5.33%)
Dentigerous cyst	6(8%)
Inflammatory periodontal cyst	1(1.33%)
NEOPLASTIC	7(9.33%)
Odontogenic (benign)	0(0%)
Ameloblastoma (follicular)	7(9.33%)
NEOPLASTIC NON-ODONTOGENIC (BENIGN)	5(6.66%)
Ossifying fibroma	3(4%)
Fibroma	1(1.33%)

Hemangioma	1(1.33%)
NON-ODONTOGENIC (MALIGN.)	3(4%)
Malignant round cell tumor	3(4%)
OTHERS	9(12%)
Tuberculosis	3(4%)
Cysticercosis cellulose	2(2.66%)
Osteomyelitis	1(1.33%)
Miscellaneous	1(1.33%)
Non-specific inflammation	1(1.33%)
Reactive lymphadenopathy	1(1.33%)
Torus	0(0%)

DISCUSSION

Detection of oral lesions in individuals is of great importance. Determining the characteristics of these lesions in children and adolescents provides the basis for proper diagnosis and treatment. Conducting epidemiological studies can help understand the at-risk groups. Early diagnosis of pre-malignant and malignant lesions of oral mucosa plays a decisive role in improving prognosis and patient's survival rate.[14]

In the present study, total 75 biopsies were assessed. In age group 0-4 years maximum biopsies were of females (8%), in age group 5-8 years (14.66%) and 9-13 years (38.66%) maximum biopsies were of males. Maximum biopsies assessed were of males (45%). Maximum biopsies assessed were of mandible (33.33%) followed by lip (20%). 60% biopsies were intraosseous and 40% were extraosseous. Maximum biopsies were of Inflammatory/reactive lesion (46.66%) followed by Cystic odontogenic (21.33%).In inflammatory/ reactive lesion, maximum biopsies were of Mucocele (22.66%). In Cystic odontogenic, maximum biopsies were of Dentigerous cyst (8%).

The frequency of diseases pertaining to the pediatric population from biopsies worldwide lies in an average of 5.2–12.8%.[15]

Mucoceles are a common alteration of minor salivary glands due to trauma followed by obstruction of the salivary gland duct which effects cystic swelling.[16]

Inflammatory cysts (radicular cyst) were the most common followed by dentigerous cyst and odontogenic keratocyst. This finding is in accordance with Padmakumar et al. and Keszler et al. and can attest to the fact that socioeconomic conditions and dental health of the patient play a role.[17,18]

Wang et al.[19] and Lima et al.[20] also showed a high frequency of mucoceles, 24.5% and 17.2%, respectively.

CONCLUSION

The present study concluded thatmaximum biopsies assessed were of males. Maximum biopsies assessed were of mandible, maximum biopsies were intraosseous. Maximum biopsies were of Inflammatory/ reactive lesion ollowed by Cystic odontogenic.

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