

ORIGINAL ARTICLE

AN APPROACH TO EVALUATE THE ORAL PEDIATRIC BIOPSIES- A RETROSPECTIVE STUDY

Gourav Jain¹, Rahul Mishra², Satyendra Singh Gautam³, Gunjan Verma³

¹Senior Resident, Department of Oral and Maxillofacial Surgery, ²Assistant Professor, Department of Pedodontics and Preventive Dentistry, ³Junior Resident, Department of Periodontology, UP University Of Medical Sciences, Saifai, Etawah-206130.

ABSTRACT:

Aim and Objectives: The aim of the study was to evaluate retrospectively, the pediatric oral biopsies received in last 1 years from the institute. To evaluate the total number of pediatric oral biopsies obtained below the age of 14 years, to classify the pediatric oral pathologies based on age, sex and site predilection and last but not least to identify the type of pediatric oral lesions based on histopathology. **Material and Method:** The present retrospective study was done with the help of the records obtained from the last 1 year. Archival biopsy reports were taken from the dental and maxillofacial centre. Patients below the age of 14 years were included in the study. **Results-**Based on Age and sex, out of the 300 biopsy reports in the institute, 26 were pediatric cases. From those 26 pediatric patients 12 were boys and 14 were girls. 6 patients were in the 0-7 age group, 16 patients were between 6-10 years and 4 patients were between 11-14 years. **Conclusion:** This study is an attempt to determine the commonest pediatric oral and maxillofacial pathologies reported. The majority of the oral pathologies detected were benign compared to a few malignant lesions.

Key words- Maxillofacial diseases, pediatric pathology, oral biopsies

Corresponding author: Dr. Rahul Mishra, Assistant Professor, Pedodontics & Preventive Dentistry, UP University Of Medical Sciences, Saifai, Etawah- 206130.

This article may be cited as: Jain G, Mishra R, Gautam SS, Verma G. An approach to evaluate the oral pediatric biopsies- A retrospective study. J Adv Med Dent Scie Res 2017;5(2):95-98.

Access this article online	
Quick Response Code 	Website: www.jamdsr.com
	DOI: 10.21276/jamdsr.2016.5.2.23

INTRODUCTION

Despite the vast literature reporting the prevalence of oral and maxillofacial diseases in the last decades, few studies have focused on biopsied lesions in the pediatric population. Literature reveals very few reported studies involving pediatric pathologies. Some of the recent reviews reported are only on pediatric tumours seen in jaws.¹⁻³ Here we are reviewing pediatric pathologies as a whole from a single dental and maxillofacial centre from Salem, India. The information obtained from this review will help in further epidemiological studies and to know the predilection in a given population. They also give insight about the age, sex, incidence, prevalence and the site of occurrence of common pathologies. In Brazil, only two studies carried out in the states reported data about biopsied oral pediatric lesions in Brazil. Children present a large variety of oral pathological conditions that are often different from those

of adults.^{4,5} The nature of many pediatric lesions changes with growth and development of the body. Comprehensive reviews on general patterns of biopsied oral lesions in children usually are confined to specific disease entities, such as tumors and cysts.^{6,7} Most retrospective studies of biopsied oral lesions in pediatric patients have been reported from North America.^{8,9} South America¹⁰⁻¹² the United Kingdom¹³ Turkey¹⁴ and Africa¹⁵ In Asia, similar studies from Southern Taiwan and Thailand have been reported. These previous retrospective studies were different in terms of geographic region, age grouping, race, and time period of data collection, and yielded different results. Therefore, it was worth examining whether there were racial and geographic variations in the incidence and pattern of oral diseases in children. The main purpose of this study was to evaluate the incidence as well as the age, sex and site of biopsied oral lesions in Taiwanese pediatric patients. In addition, we compared our results with those from previous studies carried out elsewhere.

MATERIAL AND METHODS

The present retrospective study was done with the help of the records obtained from the last 1 year. from the institute . Archival biopsy reports were taken from the dental and maxillofacial centre. Patients below the age of 14 years were included in the study. To evaluate the total number of pediatric oral biopsies obtained below the age of 14 years , to classify the pediatric oral pathologies based on age, sex and site predilection and last but not least to identify the type of pediatric oral lesions based on histopathology. Out of all the surgical excision 300 biopsy reports were available in which 26 were identified as pediatric biopsies. The reports were categorized based on their age, gender, site, and pathological diagnosis. The 26 pediatric cases were further divided into two groups based on age and based on histopathologic diagnosis. The age of the patients were further divided into three categories, According to the dentition period: primary dentition period (0–5 years), mixed dentition period (6–10 years), and permanent dentition period (11–15 years). The histopathologic diagnoses were classified under three categories: cystic lesions, neoplastic lesions, reactive / tumour-like lesions.

The Inclusion criteria for the proposed study includes- Biopsy reports of all patients below 15 years, All oral and maxillofacial biopsies obtained between the years 2004 – 2018, Soft tissue and bony pathologies.

RESULTS

Based on Age and sex out of the 300 biopsy reports in the institute, 26 were pediatric cases. From those 26 pediatric patients 12 were boys and 14 were girls. 6 patients were in the 0-7 age group, 16 patients were between 6-10 years and 4 patients were between 11-14 years. Based on Site of the lesion, it was found that 2 were in maxilla and 4 in mandible, 7 were on the tongue, 6 on the lip, 2 on the palate, 2 on buccal mucosa and 3 on floor of the mouth. Based on histopathologic diagnosis Among the 26 pathologies analysed, only 5 were malignant while all the remaining 21 were benign. The frequency distribution of the pathologies seen were as follows: 5 odontogenic cysts, 2 other cysts, 3 odontogenic tumours 6 benign connective tissue tumours, 5 malignant connective tissue tumours , 2 salivary gland tumours, 3 fibro osseous lesions .

Table 1- Age wise distribution of oral biopsies in pediatric patients

AGE GROUP	NO. OF CASES
0-7 years	06
6-10 years	16
11-14	04
Total	26

Table 2- Distribution of the oral biopsies according to the sex

SEX OF THE PATIENT	NO. OF THE BIOPSIES
MALE	12
FEMALE	14
TOTAL	26

Table 3 – Site wise distribution of oral biopsies

SITE OF THE LESION	NO. OF THE CASES
MAXILLA	2
MANDIBLE	4
TONGUE	7
LIP	6
BUCCAL MUCOSA	2
PALATE	2
FLOOR OF THE MOUTH	3
TOTAL	26

TABLE 4 - Distribution of benign and malignant lesions

TYPE OF THE CASES	NO. OF THE CASES
MALIGNANT LESIONS	01
BENIGN LESIONS	21
TOTAL	25

TABLE 5- Distribution of the lesions

TYPE OF THE LESION	NO. OF THE CASES
ODONTOGENIC CYSTS	3
ODONTOGENIC TUMORS	3
BENIGN CONNECTIVE TISSUE TUMORS	3
MALIGNANT CONNECTIVE TISSUE TUMORS	1
SALIVARY GLAND TUMORS	2
FIBRO OSSEOUS LESIONS	3
INCISIVE CANAL CYST	2
RADICULAR CYST	4
PYOGENIC GRANULOMA	4
MUCOCELE	1
TOTAL	26

DISCUSSION-

Reviews of oral pathologic lesions in children are rare. Some of the reviews reported in the literature are presented. Skinner et al.,⁸ reported 1525 oral biopsies from 0 to 20 yearold blacks and whites from Louisiana. Keszler et al.,¹⁶ reported 1289 biopsies in 0-to 15 year-old children from Argentina, but the race was not mentioned. Bhaskar¹⁷ reported 293 oral tumors in children up to 14 years of age. He found that 91% of the tumors were benign and 9% were malignant. Dehner¹⁸ described 46 tumors of mandible and maxilla in children from ages 3 months to 15 years. Khanna and Khanna¹⁹ reported 24 tumors of the jaws in children. In our study among the 97 pathologies, only 4 (4.1%) were malignant while the rest of 93 lesions were benign. The present study which is a 1 year institutional study reveals 26 pediatric tumours out of 300 biopsied surgical cases. It is difficult to determine the age interval in which pediatric oral and maxillofacial lesions occur most frequently, because of the different age ranges used in different studies². For instance, some studies only recruited children up to 15 years of age, whereas others accepted older children into their studies. The present study showed that most pediatric lesions occurred in the older age group of 6-10 years of age, which is similar to the time interval reported in the studies of Das et al.,⁹ and Chen et al.,²⁰ and Maia et al.,¹⁰. Whereas, other authors demonstrated that most pediatric oral and maxillofacial lesions were found in the mixed dentition period^{3,10}. Many studies showed an almost equal distribution between both genders (M:F = 1.05:1) as reported by Gultekin¹⁴, Das and Das⁹ and Jones and Franklin²¹. But in our study, the pathologies were more common in females. Studies of Maia et al.,¹⁰ and Lima et al.,¹² reported maxilla as the most common site, but in our study mandible was found to be more affected than maxilla.

CONCLUSION

This study is an attempt to determine the commonest pediatric oral and maxillo-facial pathologies reported. The majority of the oral pathologies detected were benign compared to a few malignant lesions. This study will throw some light regarding the prevalence and characteristics of

the lesions prevailing in the pediatric population in a geographic area, which in turn will be useful for the general dentist and pediatric dentist in diagnosing and managing these lesions appropriately.

REFERENCES-

- 1- KittipongDhanuthai, MarutBanrai and SomyotLimpanaputtajak. A retrospective study of paediatric oral lesions. Thailand International Journal of Paediatric Dentistry. 2007; 17: 248–53
- 2- Monique Maria MeloMouchrekLetícia Machado Gonçalves José RibamarSabinoBezerra-Júnior, Enara de Cássia Silva Maia, RubeniceAmaral da Silva, Maria Carmen F. Nogueira da Cruz, Oral and maxillofacial biopsied lesions in Brazilian pediatric patients: A 16-year retrospective study. Rev OdontoCienc. 2011; 26: 222-26.
- 3- SusmithaSaxena, Sanjeev Kumar, SidharthPundir. Pediatric jaw tumours: Our experience. Journal of Oral and Maxillofacial pathology. 2012; 16: 27-30.
- 4- Maia DM, Merly F, Castro WH, Gomez RS. A survey of oral biopsies in Brazilian pediatric patients. ASDC J Dent Child. 2000;67(2):128-31.
- 5- Sousa FB, Etges A, Correa L, Mesquita RA, de Araujo NS. Pediatric oral lesions: a 15-year review from Sao Paulo, Brazil. J ClinPediatr Dent. 2002;26(4):413-8
- 6- Sato M, Tanaka T, Amagasa T. Oral and maxillofacial tumours in children: a review Brit J Oral MaxillofacSurg 1997;35:92–5.
- 7- Oda D, Rivera V, Ghanee N, et al. Odontogenickeratocyst: the northwestern USA experience. J Contemp Dent Pract 2000;1:60–74.
- 8- Skinner RL, Davenport WD, Weir JC, et al. A survey of biopsied oral lesions in pediatric dental patients. Pediatr Dent 1986;8:163–7.
- 9- Das S, Das AK. A review of pediatric oral biopsies from a surgical pathology service in a dental school. Pediatr Dent 1993;15:208–11.
- 10- Maia DMF, Merly F, Castro WH, et al. A survey of oral biopsies in Brazilian pediatric patients. J Dent Child 2000; 67:128–31.
- 11- Suosa FB, Etges A, Corrêa L, et al. Pediatric oral lesions: a 15-year review from São Paulo, Brazil. J ClinPediatr Dent 2002;26:413–8.
- 12- Lima GS, Fontes ST, de Araújo LMA, et al. A survey of oral and maxillofacial biopsies in children. A single-center retrospective study of 20 years in Pelotas-Brazil. J Appl Oral Sci 2008;16:397–402.

- 13-ones AV, Franklin CD. An analysis of oral and maxillofacial pathology found in children over a 30-year period. *Int J Pediatr Dent* 2006;16:19–30.
- 14- Gültelkin SE, Tokman B, Türkseven MR. A review of paediatric oral biopsies in Turkey. *Int Dent J* 2003;53: 26–32.
- 15- Lawoyin JO. Paediatric oral surgical pathology service in an African population group: a 10 year review. *Odontostomatol Trop* 2000;89:27–30.
- 16- Keszler A, Guglielmotti MB, Dominguez FV. Oral pathology in children. Frequency, distribution and clinical significance. *Acta Odontol Latinoam*. 1990; 5: 39–48
- 17- Bhaskar SN. Oral Tumors of infancy and childhood. A survey of 293 cases. *J Pediatr*. 1963; 63: 195–210
- 18- Dehner LP. Tumors of the mandible and maxilla in children. Clinicopathologic study of 46 histologically benign lesions. *Cancer*. 31: 364-84, 1973
- 19- Khanna S, Khanna NN. Primary tumors of the jaws in children. *J Oral Surg*. 1979; 37: 800-04.
- 20- Chen YK, Lin LM, Huang HC, Lin CC, Yan YH. A retrospective study of oral and maxillofacial biopsy lesions in a pediatric population from southern Taiwan. *Pediatr Dent*. 1998; 20: 404–10.
- 21- Jones AV, Franklin CD. An analysis of oral and maxillofacial pathology found in children over a 30-year period. *Int J Paediatr Dent*. 2006; 16: 19-30.

Source of support: Nil

Conflict of interest: None declared

This work is licensed under CC BY: *Creative Commons Attribution 3.0 License*.