

## ORIGINAL ARTICLE

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

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### 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 15 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 archives. Archival biopsy reports were taken from the dental and maxillofacial centre. Patients below the age of 15 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 0-5 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

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## 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.<sup>1-3</sup> 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.<sup>4,5</sup> 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.<sup>6,7</sup> Most retrospective studies of biopsied oral lesions in pediatric patients have been reported from North America.<sup>8,9</sup> South America<sup>10-12</sup> the United Kingdom<sup>13</sup> Turkey<sup>14</sup> and Africa<sup>15</sup> 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 (11–14 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 2015 - 2016, 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
0-5 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.,<sup>8</sup> reported 1525 oral biopsies from 0 to 20 yearold blacks and whites from Louisiana. Keszler et al.,<sup>16</sup> reported 1289 biopsies in 0-to 15 year-old children from Argentina, but the race was not mentioned. Bhaskar<sup>17</sup> 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. Dehner<sup>18</sup> described 46 tumors of mandible and maxilla in children from ages 3 months to 15 years. Khanna and Khanna<sup>19</sup> 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 studies<sup>2</sup>. 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.,<sup>9</sup> and Chen et al.,<sup>20</sup> and Maia et al.,<sup>10</sup>. Whereas, other authors demonstrated that most pediatric oral and maxillofacial lesions were found in the mixed dentition period<sup>3,10</sup>. Many studies showed an almost equal distribution between both genders (M:F = 1.05:1) as reported by Gultekin<sup>14</sup>, Das and Das<sup>9</sup> and Jones and Franklin<sup>21</sup>. But in our study, the pathologies were more common in females. Studies of Maia et al.,<sup>10</sup> and Lima et al.,<sup>12</sup> 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.

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