A Retrospective Study of Pediatric Oral and Maxillofacial Pathology

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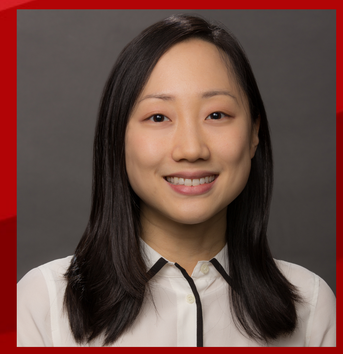


INTRODUCTION

Commonly identified oral and maxillofacial (OMF) pathologies in children differ from those reported in adults[1,2]. However, few published studies examine the OMF biopsy results of the pediatric population. Varied results have been reported in different geographic areas, likely attributable to genetic characteristics of different ethnic groups, types of organizations at which specimens were collected, and/or varying protocols or provider preferences in diagnosing OMF pathology in children[3,4,5].

Many studies have found mucoceles to be the most commonly occurring OMF biopsy diagnosis in children[3,4,6]. Additionally, most lesions found in the pediatric population are benign, but malignant lesions can occur[7,8]. Although retrospective pediatric OMF biopsy data have been surveyed in different parts of the world in the past 15 years, few contemporary retrospective studies have been published in the U.S.[3,4,9].

PURPOSE

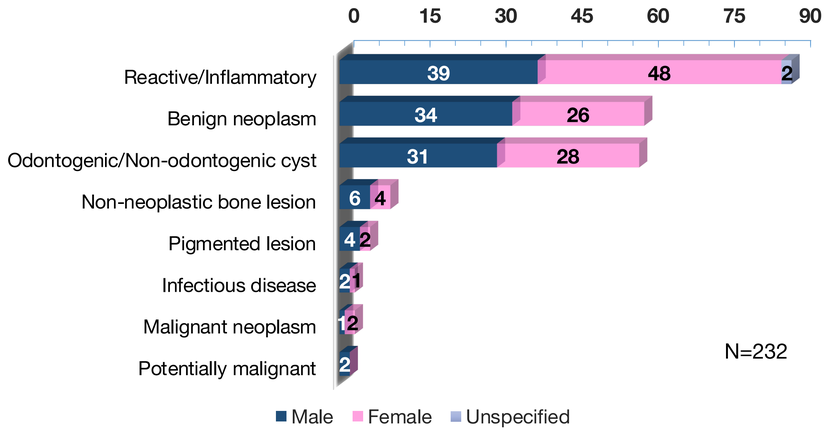
- Evaluate the variability and composition of OMF lesions amongst children and adolescents in the Stony Brook University School of Dental Medicine and Stony Brook University Hospital biopsy services in the past 15 years.
- Identify similarities and differences between the results found in this study with results globally.

MATERIALS AND METHODS

- Retrospective search of OMF lesions in patients aged 0-18 years was performed within the archives of the Stony Brook Pathology database from 2007 to 2022 (IRB2022-00175).
- Search parameters included intraoral and extraoral hard and soft tissues.
- Pathology reports of all cases were reviewed and diagnosis, location, gender, and age at diagnosis were extracted. The data were analyzed qualitatively and descriptively.
- Non-diagnostic, grossly examined, normal, or recurrent results were excluded.

RESULTS

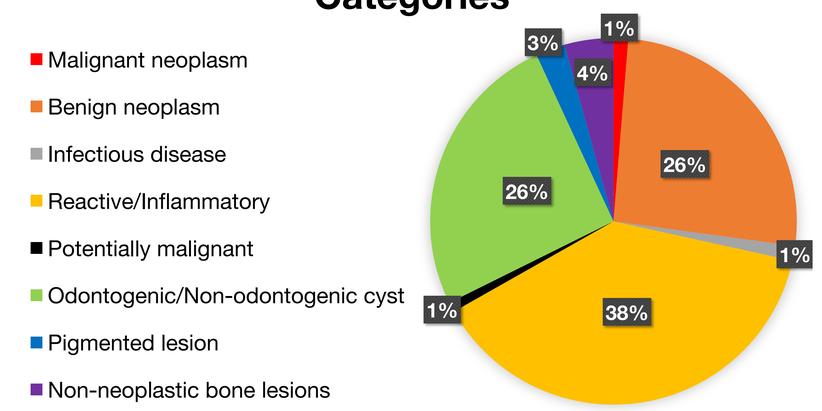
Number of Biopsied Lesions by Category



Most common diagnoses	N	%*	Average age	Male:Female
Mucocele	31	13%	8.28	13:17 1 unspecified
Compound odontoma	18	7.8%	10.1	12:6
Odontogenic keratocyst (OKC)	14	6.0%	9.71	5:9
Cyst of Mn (unspecified, odontogenic or non-odontogenic)	13	5.6%	13.2	7:6
Cyst of Mx (unspecified, odontogenic or non-odontogenic)	9	3.9%	10.7	9:0
Ranula	8	3.5%	11.3	2:6
Epithelial/fibrous hyperplasia	8	3.5%	7.25	4:4
Pyogenic granuloma	8	3.5%	8.88	5:2 1 unspecified

* % of 232 total biopsied lesions

Distribution of OMF Biopsy Categories



DISCUSSION

- The total number of biopsies in this study was low compared to other studies. Future studies can be coordinated with other hospitals to better understand the magnitude and variability of OMF lesions in the pediatric population in the U.S.
- Mucocele was the most frequently biopsied pathology. Malignant and potentially malignant lesions were rare. These results were consistent with previous studies.
- A limitation encountered in this study was the lack of specific diagnoses from hospital pathology reports regarding maxillary or mandibular cysts while reports read by oral pathologists specified the types of cysts. This elucidated OMF pathologists' crucial role at hospitals where OMF biopsies are interpreted. OMF pathologists can specify diagnoses to help better guide patient care and outcomes.

CONCLUSION

- Out of 232 cases, 119 were male, 111 were female, and 2 did not specify gender. The average age at diagnosis was 9.9 years.
- The most common diagnostic categories were reactive/inflammatory, benign neoplasm, and odontogenic/non-odontogenic cysts.
- The most common diagnoses were mucoceles followed by compound odontomas and OKCs.
- The majority of diagnoses were benign in nature.
- Malignant neoplasms included alveolar soft part sarcoma, mucoepidermoid carcinoma, and Hodgkin lymphoma. Average age at diagnosis was 11 years, affecting 1 male and 2 females.

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