JOURNAL OF
CONTEMPORARY MEDICINE

DOI:10.16899/jcm.1187584
J Contemp Med 2022;12(6):877-883

Original Article / Orijinal Araştırma

Retrospective Analysis of Oral and Maxillofacial Pathologies

Oral ve Maksillofasiyal Patolojilerin Retrospektif Analizi

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Abstract

Objectives: The aim of this study is to analyze the biopsy results of oral and maxillofacial lesions and to discuss them in the accompanied by the literature.

Material and Method: In the study, biopsy results of 644 patients who were admitted to Zonguldak Bülent Ecevit University Faculty of Dentistry, Department of Oral and Maxillofacial Radiology between 2016-2021 for various reasons and subsequently diagnosed with oral, and maxillofacial pathology were retrospectively analyzed using digital archives. Age, gender, location of the lesions and pathological diagnoses of the patients were recorded.

Results: In the study, 344 (53.41%) of the patients whose biopsy reports were examined were male and 300 (46.59%) were female, and the male/female (M/F) ratio was determined to be 1.15/1. The age range varied between 7 and 88 years and the mean age was 37.85±17.35 years. Out of a total of 644 lesions, 436 (67.8%) were cysts, 148 (23.1%) were inflammatory/reactive lesions, 57 (9.3%) were benign tumors and tumor-like lesions, and 3 (0.5%) were included in the malignant tumor and tumor-like lesion group.

Conclusions: The analysis of data on oral and maxillofacial lesions is of great importance for the planning of preventive and therapeutic services.

Keywords: Oral lesions, prevalence, odontogenic cysts, odontogenic tumors, oral pathology.

Öz

Amaç: Bu çalışmanın amacı, oral ve maksillofasiyal lezyonların biyopsi sonuçlarını analiz etmek ve literatür eşliğinde tartışmaktır.

Gereç ve Yöntem: Çalışmada, 2016-2021 yılları arasında Zonguldak Bülent Ecevit Üniversitesi Diş Hekimliği Fakültesi Ağız, Diş ve Çene Radyolojisi Anabilim Dalı'na çeşitli nedenlerle başvuran ve sonrasında oral ve maksillofasiyal patoloji tanısı alan 644 hastanın biyopsi sonuçları dijital arşiv kullanılarak retrospektif olarak incelenmiştir. Hastaların yaşları, cinsiyetleri, lezyonların lokalizsyonları ve patolojik tanıları kaydedildi.

Bulgular: Çalışmada, biyopsi raporu incelenen hastaların 344'ü (%53,41) erkek, 300'ü (%46,59) kadın olup, erkek/kadın (E/K) oranı 1,15/1 olarak belirlendi. Yaş aralığı 7 ile 88 arasında değişmekte olup, yaş ortalaması 37,85±17,35 idi. Toplam 644 lezyonun 436'sı (%67,8) kist, 148'i (%23,1) inflamatuar/reaktif lezyonlar, 57'si (%9,3) iyi huylu tümörler ve tümör benzeri lezyonlardı ve geriye kalan 3 (%0,5) patoloji malign tümör ve tümör benzeri lezyon grubundaydı.

Sonuç: Oral ve maksillofasiyal lezyonlara ilişkin verilerin analizi, koruyucu ve tedavi edici hizmetlerin planlanması için büyük önem taşımaktadır.

Anahtar Kelimeler: Oral lezyonlar, prevalans, odontojenik kistler, odontojenik tümörler, oral patoloji.

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Received *(Geliş Tarihi)*: 11.10.2022 **Accepted *(Kabul Tarihi)*:** 14.11.2022

INTRODUCTION

The oral cavity; consists of different anatomical and complex structures including the jaws, tongue, lips, gingiva, hard palate and palatal mucosa, retromolar region, floor of the mouth, salivary glands, and teeth. Pathological changes occurring in these anatomical regions may have different morphological and histopathological features.[1]

Lesions of the oral and maxillofacial region; include developmental, reactive, inflammatory, benign, or malignant formations.[2] In the oral mucosa, infections caused by factors such as viruses, bacteria, fungal pathogens, or carcinogenic agents may also trigger neoplasm formation by causing deterioration. Long-term alcohol and tobacco use are also held responsible for the etiology of premalignant or malignant lesions with studies have shown.[3] The incidence of these pathologies in male and female varies between populations and in each decade of life.[4]

Oral and maxillofacial lesions may be of odontogenic or non-odontogenic origin.[5] Pain and swelling, ulceration, paresthesia, tooth loss, root resorption, and facial deformities can be counted among the clinical signs of these pathologies. While some oral lesions are easily diagnosed, it may be difficult to distinguish between non-specific pathologies with similar clinical features. The combination of careful clinical examination and radiological imaging, as well as histopathological examination of biopsy samples taken from tissues, is important for the implementation of the correct treatment program and diagnosis.[6,7]

Having up-to-date knowledge of the prevalence and demographic characteristics of these pathologies is helpful in the clinical evaluation of lesions and treatment protocols.[8] Sometimes the early stages of malignant lesions show clinical features similar to those of benign lesions. Failure to make this distinction may lead to morbidity and mortality, and undesirable situations may occur for the patient. Therefore, the correct treatment of a patient with an oral or maxillofacial lesion begins with the correct diagnosis. Although there are many different methods to diagnose these pathologies, histopathological examination of tissue biopsy of the suspicious lesion is considered the 'gold standard'.[3]

Retrospective studies to evaluate the distribution of maxillofacial lesions are important in estimating the prevalence of these pathologies and therefore in identifying the high-risk subpopulation.[9] Different regions in the oral cavity may be characteristic of the lesion types, so knowing the characteristics of the existing anatomical region will also be beneficial in determining the responsible etiological factors.[1]

In this study, we retrospectively evaluated the histopathology reports of oral and maxillofacial lesions and aimed to discuss the results obtained.

MATERIAL AND METHOD

The study was carried out with the permission of Zonguldak Bülent Ecevit University Non-Interventional Clinical Research Ethics Committee (Date: 08.06.2022, Decision No: 2022/11). All procedures were carried out in accordance with the ethical rules and the principles of the Declaration of Helsinki. In the study, biopsy results of 644 patients who were admitted to Zonguldak Bülent Ecevit University Faculty of Dentistry in Turkey, Department of Oral and Maxillofacial Radiology between 2016-2021 for various reasons and subsequently diagnosed with oral and maxillofacial pathology were retrospectively analyzed using digital archives. Oral and maxillofacial pathology data of the patients with the histopathological diagnosis were analyzed. The patients' ages at the time of diagnosis, gender, and anatomical regions of the biopsies were recorded. Information on how long the existing lesions had existed in the patients could not be obtained.

According to the criteria in Robbins and Cotran Pathological Basis of Disease, all pathologies are among themselves; they were categorized as benign tumor/tumor-like lesions, malignant tumor/tumor-like lesions, inflammatory/reactive lesions, and cysts.[8] Anatomical regions biopsied; were categorized as mandible, maxilla, gingiva, buccal and palatal mucosa, tongue, lips, sublingual area, maxillary sinus, and salivary glands.

The number of patients, the mean age, the ratio of male and female genders to each other, the most common lesions according to anatomical regions, the incidence of lesions within themselves, and their ratios among all lesions are given in the tables.

Statistical Analysis

Descriptive statistics were applied to the obtained data, and their distribution by age and gender was examined. SPSS 22.0 Software Program was used for statistical analysis in the study.

RESULTS

In our study, 344 (53.41%) of the patients diagnosed histopathologically were male and 300 (46.59%) were female patients. It was determined that the pathologies were more common in male and the male/female (M/F) ratio was 1.15/1. The mean age was 37.85±17.35 years, and the ages of the patients ranged from 7 to 88 years.

Out of a total of 644 lesions, 436 (67.8%) were cysts, 148 (23.1%) were inflammatory/reactive lesions, 57 (9.3%) were benign tumors and tumor-like lesions, and 3 (0.5%) were included in the malignant tumor and tumor-like lesion group (**Table 1**).

Among all histopathology reports, the most common lesion was radicular cyst (37.1%), followed by dentigerous cyst (26.4%). Radicular cyst (54.8%), dentigerous cyst (39.0%), residual cyst (2.5%) and odontogenic keratocyst (0.9%) were the most common cysts in the cyst group. Epidermal cyst (0.2%) and paradental (0.2%) cysts were the least common cysts.

Table 1. Distribution of lesion groups by to age, gender and incidence.

Lesion Groups	Number (n)	M/F Ratio	Percentage in Total (%)	Age Range	Mean Age±SD
Cysts	436	1.3/1	67.8%	7-82	35.53±15.84
Inflammatory/reactive lesions	148	0.94/1	23.1%	8-81	41.34±18.36
Benign tumors and tumor-like lesions	57	0.6/1	9.3%	9-88	45.74±22.15
Malignant tumors and tumor-like lesions	3	0.5/1	0.5%	48-58	52.33±5.13
Total	644	1.15/1	100%	7-88	37.8±17.3

*M:F ratio, male-to-female ratio. * SD: standard deviation

The mean age of the patients diagnosed with cyst was 35.53±15.84 years and male predominance (M/F:1.3/1) was prominent. The mean age of occurrence of all cysts was above 18 years (**Table 2**).

Inflammatory granulation tissue was the most common (39.9%) lesion detected among inflammatory/reactive lesions. Chronic inflammatory fibrous tissue (20.9%) and epithelial hyperplasia (16.9%) followed inflammatory granulation tissue, respectively. The incidence of irritation fibroma (M/F:1/1) was equal in male and female, but pyogenic granuloma was not found in men. The age of inflammatory/reactive lesions was over 18 years old and the incidence was lower in male than in female (M/F:0.94/1) (**Table 3**).

The incidence of lesions diagnosed as peripheral giant cell granuloma (PGCG) was 21.1%, and PGCG ranked first among benign tumors and tumor-like lesions (**Table 4**). Odontoma ranked second (17.5%) and osteoma ranked third (8,8%). Considering the M/F (0.6/1) ratio, it is seen that male are less affected by benign tumors and tumor-like lesions than female. The mean age of this group is 45.74±22.15 years. The mean age of patients with central giant cell granuloma and ameloblastic fibroma is below 18 years of age.

Squamous cell carcinoma (SCC) is the only malignant tumor and tumor-like lesion detected in the study. SCC constituted all of the malignancies (100.0%). Looking at gender, female were affected by SCC 2 times more than male, and the mean age was 51.0±5.1 years.

It was determined that the lesions were mostly localized in the jaw bones. The most commonly affected were the mandible (61.2%), the second (30.6%) maxilla, and the third (2.4%) gingiva. The area where the lesions were seen the least (0.3%) was the salivary glands **Figure 1**.

Table 2. Distribution of cysts by age, gender and types.

CYSTS

Lesion	Male (n)(%)	Female (n)(%)	M/F Ratio	Total(n) (Percentage in group)(%)	Percentage in Total (%)	Age Range	Mean Age±SD
Radicular cyst	143 (57.2%)	96 (51.6%)	1.5/1	239 (54.8%)	37.1%	7-82	36.0±16.1
Dentigerous cyst	88 (35.2%)	82 (44.1%)	1.07/1	170 (39.0%)	26.4%	9-71	26.0±13.5
Residual cyst	10 (4.0%)	1 (0.5%)	10/1	11 (2.5%)	1,7%	34-77	54.0±12.2
Odontogenic keratocyst	2 (0.8%)	2 (1.1%)	1/1	4 (0.9%)	0.6%	18-67	36.0±20.4
Calcifying odontogenic cyst	1 (0.4%)	2 (1.1%)	0.5/1	3 (0.7%)	0.5%	10-22	22.0±6.9
Nasopalatine duct cyst	2 (0,8%)	1 (0,5%)	2/1	3 (0,7%)	0,5%	44-65	58.0±10.6
Nasoalveolar cyst	2 (0.8%)	- (0.0%)	Male	2 (0.5%)	0.3%	54	54.0±0.0
Lateral periodontal cyst	1 (0.4%)	1 (0.5%)	1/1	2 (0.5%)	0.3%	55-64	59.5±6.3
Paradental cyst	1 (0.4%)	- (0.0%)	Male	1 (0.2%)	0.2%	34	34.0±0.0
Epidermal cyst	- (0.0%)	1 (0.5%)	Female	1 (0.2%)	0.2%	23	23±0.0
Total	250 (100.0%)	186 (100.0%)	1.3/1	436 (100.0%)	67.8%	7-82	35.53±15.84

*M:F ratio, male-to-female ratio. * SD: standard deviation

Table 3. Distribution of ınflammatory/reactıve lesıons by age, gender and types.

INFLAMMATORY/REACTIVE LESIONS

Lesion	Male (n)(%)	Female (n) (%)	M/F Ratio	Total(n) (Percentage in group)(%)	Percentage in Total (%)	Age Range	Mean Age±SD
Inflammatory granulation tissue	31 (43.1%)	28 (36.8%)	1.1/1	59 (39.9%)	9.2%	8-81	37.0±16.5
Chronic ınflammatory fibrous tissue	13 (18.1%)	18 (23.7%)	0.7/1	31 (20.9%)	4.8%	12-71	28.0±18.5
Epithelial hyperplasia	13 (18.1%)	12 (15.8%)	1.08/1	25 (16.9%)	3.9%	17-79	56.0±18.5
Irritation fibroma	9 (12.5%)	9 (11.8%)	1/1	18 (12.2%)	2.8%	9-72	48.0±15.2
Pyogenic granuloma	- (0.0%)	4 (5.3%)	Female	4 (2.7%)	0.6%	25-81	52.0±23.5
Fungal granuloma	1 (1.4%)	3 (3.9%)	0.3/1	4 (2.7%)	0.6%	17-59	47.0±19.6
Mucocele	1 (1.4%)	2 (2.6%)	0.5/1	3 (2.0%)	0.5%	22-26	23.0±2.0
Osteomyelitis	3 (4.2%)	- (0.0%)	Male	3 (2.0%)	0.5%	42-68	66.0±14.4
Minor salivary gland hyperplasia	1 (1.4%)	- (0.0%)	Male	1 (0.7%)	0.2%	78	78.0±0.0
Total	72 (100.0%)	76 (100.%)	0,94/1	148 (100.0%)	23.1%	8-81	41.34±18.36

*M:F ratio, male-to-female ratio. * SD: standard deviation

Table 4. Distribution of benign tumors and tumor-like lesıons by age, gender and types.

BENIGN TUMORS AND TUMOR-LIKE LESIONS							
Lesion	**Male (n)(%)**	**Female (n) (%)**	**M/F Ratio**	**Total(n) (Percentage in group)(%)**	**Percentage in Total (%)**	**Age Range**	**Mean Age±SD**
PGCG	5 (23.8%)	7 (19.4%)	0.7/1	12 (21.1%)	1.9%	49-72	62.0±7.9
Odontoma	5 (23.8%)	5 (13.9%)	1/1	10 (17.5%)	1.6%	12-60	22.0±16.8
Osteoma	2 (9.5%)	3 (8.3%)	0.7/1	5 (8.8%)	0.8%	22-71	42.0±18.0
Squamous papilloma	1 (4.8%)	4 (11.1%)	0.25/1	5 (8.8%)	0.8%	23-66	50.0±17.5
Benign fibro-osseous lesion	2 (9.5%)	3 (8.3%)	0.7/1	5 (8.8%)	0.8%	29-84	48.0±26.2
Cemento- ossifying fibroma	1 (4.8%)	2 (5.6%)	0.5/1	3 (5.3%)	0.5%	19-27	22.0±4.0
Capillary hemangioma	1 (4.8%)	2 (5.6%)	0.5/1	3 (5.3%)	0.5%	33-65	44.0±16.2
Cementoblastoma	- (0.0%)	2 (5.6%)	Female	2 (3.5%)	0.3%	26-41	33.5±10.6
Ameloblastoma	1 (4.8%)	1 (2.8%)	1/1	2 (3.5%)	0.3%	31-83	57.0±36.7
Ameloblastic fibroma	1 (4.8%)	1 (2.8%)	1/1	2 (3.5%)	0.3%	11-15	13.0±2.8
Lipoma	1 (4.8%)	1 (2.8%)	1/1	2 (3.5%)	0.3%	79-88	83.5±6.3
Odontogenic myxoma	- (0.0%)	1 (2.8%)	Female	1 (1.8%)	0.2%	42	42.0±0.0
Lymphangioma	- (0.0%)	1 (2.8%)	Female	1 (1.8%)	0.2%	59	59.0±0.0
Neurofibroma	- (0.0%)	1 (2.8%)	Female	1 (1.8%)	0.2%	48	48.0±0.0
Central giant cell granuloma	1 (4.8%)	- (0.0%)	Male	1 (1.8%)	0.2%	9	9.0±0.0
Pleomorphic adenoma	- (0.0%)	1 (2.8%)	Female	1 (1.8%)	0.2%	35	35.0±0.0
Papillary oncocytic cystadenoma	- (0.0%)	1 (2.8%)	Female	1 (1.8%)	0.2%	67	67.0±0.0
Total	21 (100.0%)	36 (100.0%)	0,6/1	57 (100.0%)	9.3%	9-88	45.74±22.15

*M:F ratio, male-to-female ratio. * SD: standard deviation

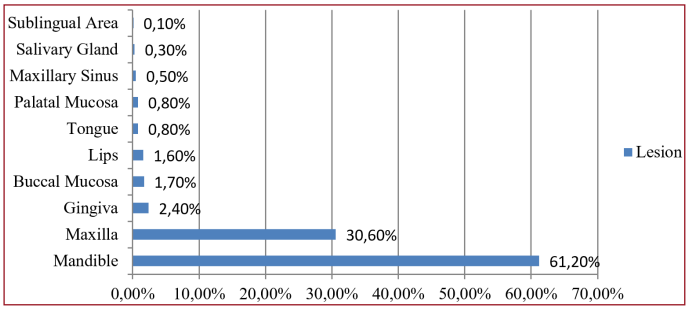

Figure 1. Distribution of lesions in anatomical regions

The most common lesion in both the maxilla and mandible was the radicular cyst. Among all lesions, the incidence of radicular cyst in the maxilla (43.9%) was stated to be higher than in the mandible (38.7%). PGCG is the most common (75.0%) lesion in the gingiva among all lesions. In the study, SCC was the most common pathology (40.0%) on the tongue, while mucocele was the most common (30.0%) on the lips (**Figure 2**).

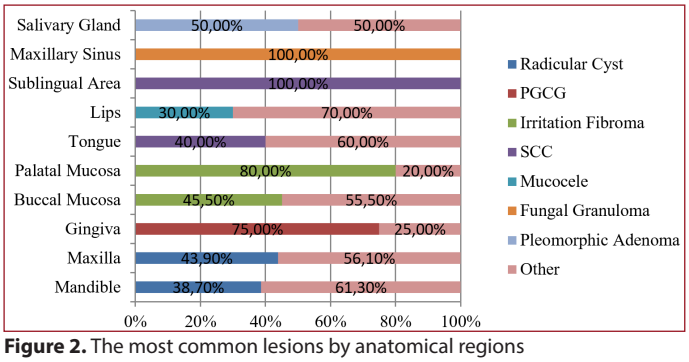

Figure 2. The most common lesions by anatomical regions

DISCUSSION

The prevalence and type of oral and maxillofacial pathologies; may vary according to age, gender, and anatomical region. Obtaining information about these factors may guide the differential diagnosis of lesions. Clinical and radiological examination alone may be insufficient in examining lesions that do not have complex and specific features. In such cases, biopsy and histopathological examinations are of great importance in establishing a definitive diagnosis and treatment protocol.[8] Some changes have been made in the final classification published by the World Health Organization (WHO) in 2017. Accordingly, odontogenic keratocysts and calcified odontogenic cysts were excluded from the odontogenic tumor classification and included in the group of odontogenic cysts. In our study, cysts were classified according to the latest criteria published by WHO.[10]

The male-to-female ratio (M/F) for all pathologies varies in literature studies.[8,11] Yakin et al.[12] reported this ratio as 0.79/1 (M/F), Jones et al.[13] determined it to be 0.9/1 (M/F). Contrary to the reported studies, male (M/F:1.15/1) gender dominance is prominent in our study. It should be kept in mind that the study methodology and the patient group with incidental pathology are effective in obtaining these different results.

The mean age in our study was 37.8±17.3 years, which was lower than the others.[8,10,11] While Hosgor et al.[10] determined the mean age to be 39.6±15.47 years in their study, the mean age was reported as 46.8±23 years in the study conducted by Saleh et al.[11]

Intraosseous pathological spaces with liquid, gas, or semi-liquid contents surrounded by odontogenic epithelium are called odontogenic cysts. WHO has classified odontogenic cysts as inflammatory and developmental and has determined that they are responsible for 90% of jaw cysts. Radicular cyst is the most common inflammatory odontogenic cyst and occurs due to the proliferation of the rest of the 'Malassezia Epithelium'.[14-16]

Considering previous studies, radicular cyst was the most common jaw cyst, followed by dentigerous cyst and odontogenic keratocyst.[6,15-17] In our study, the most common odontogenic cysts (5.8%) were radicular cysts and dentigerous cysts (39.0%), which is consistent with other studies. In our study, the incidence of odontogenic keratocyst (0.9%) in the cyst group was determined to be quite low compared to other studies.[10,13,16] Consistent with the results of studies in our country and in different populations, it was found in our study that cysts affect males more frequently than females (M/F:1.3/1).[8,15,17,18] However, Souza et al.[19] and da Silva et al.[20] included the Brazilian population, the incidence of female cysts was determined to be higher.

When the distribution of pathologies by anatomical regions is examined, In our study, 61.2% of all lesions were seen in the mandible and 30.6% in the maxilla. Contrary to other studies, the incidence of lesions in the mandible was stated to be higher than in the maxilla.[15,16]

When we examined the distribution of radicular cysts by gender, it was determined that the incidence in male (57.2%) was higher than in female (51.6%). This result was in agreement with other studies.[8,13,14] However, contrary to what Sixto et al.[2] reported, the incidence of radicular cyst was stated to be higher in female. We determined the mean age of patients with radicular cysts to be 36.0±16.1 years, and the mean age of patients with dentigerous cysts to be 26.0±13.5 years. In our study, radicular cysts were most commonly located in the mandible (n=152) and then in the maxilla (n=87), but Açıkgöz et al.[15] study, the maxilla (n=148) was more affected than the mandible (n=103).

Dentigerous cysts are the most common developmental cysts that develop due to enlargement of the follicle around the crown of an unerupted tooth.[21] Other less common developmental odontogenic cysts; lateral periodontal cyst, calcified odontogenic cyst, and odontogenic keratocyst have been reported.[14] In our study, dentigerous cysts were the second most common (39.0%) cyst and incidence was higher in men than in female. These findings were reported by Ulaganathan et al.[22], and Açıkgöz et al.[15], and Tamiolakis et al.[18] coincides with the results of the work of.

The proliferative activity of inflammatory/reactive lesions is considered to be initiated by local irritants. The clinical behavior of reactive lesions may differ in environmental factors, lifestyles, and ethnicities, and in various populations. Reactive lesions are commonly observed in the oral cavity due to the high frequency of tissue injuries and cannot be easily distinguished clinically.[23] Local irritants, trauma, dental calculus, and hormonal imbalances are involved in the etiology, and this causes this situation to be seen more frequently in female, especially during pregnancy.[21]

When we look at the literature, there are studies stating that inflammatory/reactive lesions are seen more frequently than cystic lesions.[24] In our study, the incidence of inflammatory/reactive lesions (23.1%) was reported by Lei et al.[17], (36.6%) and Mendez et al.[25] (63.24%) were stated to be lower on the contrary. According to these results, the most common (39.9%) inflammatory/reactive lesion was inflammatory granulation tissue. Chronic inflammatory fibrous tissue (20.9%) and epithelial hyperplasia (16.9%) were the other most common inflammatory/reactive lesions, respectively. Sangle et al.[23] determined the most common (37.4%) irritation fibroma and the second most common (3.6%) pyogenic granuloma. Jones et al.[13] reported in their study that the incidence of pyogenic granuloma was 31.8%. Sangle et al.[23] reported the incidence of inflammatory/reactive lesions as 63.9% in female and 36.1% in male, and they stated that these lesions were mostly seen in the 2nd and 3rd decade of life. In the same study, it was reported that the most affected areas were the gingiva, labial mucosa, tongue, and buccal mucosa, respectively.[23] In our study, irritation fibroma was the most common lesion in the buccal and palatal mucosa, while the mean age of the affected patients was 41.34±18.36 years.

PGCG is a non-neoplastic lesion with growth characteristics similar to benign tumors, resulting from localized trauma to the periosteal connective tissue and periodontal ligament.[26] PGCG was the most common benign tumor/tumor-like lesion in our study (21.1%). According to Hosgor et al.[10] reported that the most common lesion type among bone tumors and related lesions was giant cell granuloma, but they did not classify giant cell granulomas as peripheral or central in their study.

Boffano et al.[27] determined that the incidence of PGCG was higher in female. Hosgor et al.[10] the mean age of patients with PGCG were 43.05 years, Boffano et al.[27] reported 48.8 years. In our study, the most common lesion type among tumor/tumor-like lesions was PGCG, with a M/F ratio of 0.7/1. The gender distribution of these lesions is in parallel with the studies and the mean age (62.0±7.9) is higher than in the studies conducted. While PGCG frequently affects the maxilla in the study of Boffano et al.[27] it was determined to affect the mandible in the study of Sangle et al.[23] As a matter of fact, unlike in our study, the most frequently affected area was the gingiva.

In our study, the most common (n=10) benign odontogenic tumor was odontoma. This was followed by cemento ossifying fibroma, cementoblastoma, ameloblastoma, and ameloblastic fibroma. 70% of the cases with odontoma were observed in the mandible, and 30% were observed in the maxilla. The mean age of the patients with odontoma was 22.0±16.8 years and the M/F ratio was equal (1/1). On the

other hand, Singh et al.[28] stated that odontoma is the most common benign odontogenic tumor, followed by ossifying-fibroma and ameloblastoma. Similarly, Hoşgör et al.[10] determined the mean age of odontoma cases to be 27.3±19.6 years and the M/F ratio as 0.9/1. These data are similar to the results of our study. As a matter of fact, studies are showing that the incidence of ameloblastoma can vary between 18% and 45% and that it is the most common odontogenic tumor.[8,29,30]

Finally, SCC was the only (100%) malignant tumor and tumor-like lesion detected in our study. According to all lesions, the incidence of SCC was determined to be 0.5%. According to the results we obtained, the number of patients diagnosed with malignant tumors was 18,6 times less than benign tumors. Most studies support our results and SCC is the most common malignant tumor.[8,17,28] However, Jaafari-Ashkavandi et al. reported that osteosarcoma (28.1%) was the most common malignant tumor in their study, which is inconsistent with our results.[31] While the elderly population is more commonly affected by SCC, recent studies show that younger individuals are also increasingly suffering from oral malignant tumors. This result is thought to be due to the gradual increase in alcohol and cigarette consumption.[32] The mean age of the patients diagnosed with SCC was 51.0±5.1 years, and the M/F ratio was 0.5/1. Brown et al. reported that female were more frequently affected by SCC.[9] On the other hand, Singh et al.[28] mean age was 67.6±14.4 years, and Hoşgör et al.[10] reported it as 68.6±15.42 years, and these results were stated to be higher than ours. Similar to our study, Dovigi et al.[8] reported that SCC cases were mostly seen in tongue.

CONCLUSION

Analysis of data on oral and maxillofacial lesions provides guidance in planning preventive and therapeutic services. The limitations of retrospective analysis should be considered when evaluating some of the results of our study. In our study, the histopathology reports of 644 patients with oral and maxillofacial lesions were reviewed retrospectively. Only lesions that were biopsied were evaluated in the study, and lesions that were not biopsied were excluded from the study. Comprehensive patient groups and multicenter studies are needed to adequately define the characteristics and demographic distributions of the lesions.

ETHICAL DECLARATIONS

Ethics Committee Approval: The study was carried out with the permission of Zonguldak Bülent Ecevit University Non-Interventional Clinical Research Ethics Committee (Date: 08.06.2022, Decision No: 2022/11).

Informed Consent: Because the study was designed retrospectively, no written informed consent form was obtained from patients.

Referee Evaluation Process: Externally peer-reviewed.

Conflict of Interest Statement: The author has no conflicts of interest to declare.

Financial Disclosure: The author declared that this study has received no financial support.

Author Contributions: All of the authors declare that they have all participated in the design, execution, and analysis of the paper, and that they have approved the final version.

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