**Retrospecti̇ve Analysi̇s of the Di̇agnosti̇c Di̇lemma in Mali̇gnant and Beni̇gn Lesi̇ons of the Maxi̇llofaci̇al Region Review**

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| **Abstract**There are different types of gingival enlargements. It varies according to etiological and pathological factors. Definitive diagnosis of the enlargement is important, as some gingival enlargements may indicate malignant lesions that extensive morbidity and even death. Oral cancers, especially squamous cell carcinomas, differ in the affected areas. Detailed medical history, clinical examination, and radiographic evaluation will help identify the lesion and biopsy will aid in definitive diagnosis. Malignant-benign lesions of the maxillofacial region published as case reports in the last 10 years were scanned in the Pubmed database. 6790 articles were found. Titles and abstracts were reviewed, 127 case reports that were confused as pyogenic granuloma or metastasis in the maxillofacial region were identified. Articles older than 10 years were excluded, 30 case reports (19 men, 11 women) were reviewed. The age range of females and males was 1-78 (49,18). 22 pyogenic granuloma cases with a prediagnosis and 8 metastasis cases with a prediagnosis were determined. The region of lesions, age, gender, habits Statistical analysis was performed with IBM SPSS Statistics 25 program. It should be considered that a newly diagnosed malignancy in the maxillofacial region may metastasize from distant sites and may present signs and symptoms before the primary tumor. The clinical manifestations of oral cancers are similar to benign lesions. Histopathological evaluation is important for early diagnosis. The aim of this study is to evaluate the current literature on misconceptions in the diagnosis of malignant-benign lesions in the maxillofacial region. |
| Keywords: Benign, Malign, Metastasis, Pyogenic Granuloma |

1. **Introduction**

Metastatic tumours of the maxillofacial region are uncommon and account for approximately 1-4% of all oral malignancies [1]. Oral metastases can occur in the oral soft tissues. These malignancies are likely to exhibit non-specific symptoms and may clinically mimic benign lesions, thus making it difficult for practitioners to diagnose [2]. The lungs, kidney, breast, and bone comprise the majority of primary sites that metastasize to the oral cavity [3]. Pyogenic granuloma is a non-neoplastic inflammatory hyperplasia that responds to various stimuli such as oral hygiene, chronic local irritation, trauma, hormonal changes, and reactions to grafts [4]. It presents as a localised, exophytic, peduculated, or an ulcerative, painless growth of mucousa [5]. The most common intraoral site is the gingiva (nearly 75%), but it also affects the lips, mucosa, and tongue [6].

1. **Materials and Methods**

Malignant-benign lesions of the maxillofacial region published as case reports in the last 10 years were scanned in the Pubmed database. 6790 articles were found. Titles and abstracts were reviewed, 127 case reports that were confused as pyogenic granuloma or metastasis in the maxillofacial region were identified. Articles older than 10 years were excluded, 30 case reports (19 men, 11 women) were reviewed. The region of lesions, age, gender, habits and prediagnosis- diagnosis were analysed statistical analysis with IBM SPSS Statistics 25 program (SPSS Inc., Chicago, IL, USA).

1. **Results**

As a result of the evaluations, 22 of the 30 cases were sent for pathological evaluation with the preliminary diagnosis of pyogenic granuloma and a definitive diagnosis of metastasis was made. 8 of them were diagnosed as metastasis, but were reported to be pyogenic granuloma (Table 1). It was determined that 30 cases were more prevalent among males (*n* = 19/% 63,3) than females (*n* = 11/36,6 %). The age range of the women was 1-78 (mean 49.18 - median 58 - sd 22.973). The age range of men was found to be 20 - 75 (mean 46-median 46 sd 13,888). Table 5 shows relation of gender and age. When the habits of the cases were examined, it was learned that the number of smokers was 9 (30%) and 21 cases were non-smokers (70%). It was learned that the number of alchol was 8 (26,70%) yes and 22 cases were no (73,30%) (Table 2). Regarding the anatomical location in soft tissues, lesions in gingiva (*n* = 21/70%), were more prevalent, lips, buccal mucosa and tongue on each (n=1/3.30%), It was found that there were (n=6/20%) cases in the palate (Table 4). Table 4. shows the symptoms seen in the lesions, ulceration was determined as (n=25/83.30%), bleeding as (n=20/66.70%), swelling as (n=28/93.30%), pain as (n=13/43.30%).

**Table 1.** Diagnosis and prediognosis frequance analysis

|  |  |  |  |
| --- | --- | --- | --- |
|   |   | Count | Column N % |
| Diagnosis  | Piyogenic Granulama | 8 | 26,70% |
|   | Metastasis | 22 | 73,30% |
|   | Total | 30 | 100,00% |
| Prediagnosis  | Piyogenic granuloma  | 22 | 73,30% |
|   | Metastasis  | 8 | 26,70% |
|   | Total | 30 | 100,00% |

**Table 2.** Analysis of habits

|  |  |  |  |
| --- | --- | --- | --- |
|   |   | Count | Column N % |
| Smoking | yes | 9 | 30,00% |
|   | no | 21 | 70,00% |
|   | Total | 30 | 100,00% |
| Alchol  | yes | 8 | 26,70% |
|   | no | 22 | 73,30% |
|   | Total | 30 | 100,00% |
| Tobacco | yes | 0 | 0,00% |
|   | no | 30 | 100,00% |
|   | Total | 30 | 100,00% |

**Table 3.** Symptoms

|  |  |  |  |
| --- | --- | --- | --- |
|   |   | Count | Column N % |
| Ulceration  | yes | 25 | 83,30% |
|   | no | 5 | 16,70% |
|   | Total | 30 | 100,00% |
| Bleeding | Yes  | 20 | 66,70% |
|  |
|   | No  | 10 | 33,30% |  |
|   | Total | 30 | 100,00% |  |
| Swelling  | Yes  | 28 | 93,30% |  |
|   | No  | 2 | 6,70% |  |
|   | Total | 30 | 100,00% |  |
| Pain  | Yes  | 13 | 43,30% |  |
|   | No  | 17 | 56,70% |  |
|   | Total | 30 | 100,00% |  |

**Table 4.** Anatomical Location

|  |  |  |  |
| --- | --- | --- | --- |
|   Region  |  | Count | Column N % |
|  | Gingiva  | 21 | 70,00% |
|   | Lip  | 1 | 3,30% |
|   | Buccal mucosa | 1 | 3,30% |
|   | Tongue | 1 | 3,30% |
|   | Palate  | 6 | 20,00% |
|   | Total | 30 | 100,00% |

**Table 5.** Relation between gender and age

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | Age |  |  |  |  |
| Gender  | N | Mean | Median | Std. Deviation | Maximum | Minimum |
| Female | 11 | 49,18 | 58 | 22,973 | 78 | 1 |
| Male | 19 | 46 | 46 | 13,888 | 75 | 20 |
| Total | 30 | 47,17 | 48 | 17,44 | 78 | 1 |
|  |  |  |  |  |  |  |

**Discussion**

Distant metastasis to the maxillofacial region is a rare, accounts only 1% of all oral malignancies [7]. The clinical diagnosis of oral metastasis is a challenge. Therefore, these lesions are usually misdiagnosed as pyogenic granuloma, hyperplastic gingival inflammation, peripheral giant cell granuloma, or other benign tumours [8].

The definiteve diagnosis can be done after histopathological evaluation. In this study, we reviewed cases with metastasis after incisional biopsy and mimicking pyogenic granuloma. Histopathological evaulation is very important for the final diagnosis of the oral metastatic lesions. In some cases oral metastasis occured as a first sign of the primary carcinomas. In this case, immunohistochemical stains may be needed to characterize the primary tumour or confirm the metastasis [9].

Metastatic tumors may appear in the oral soft tissues, jaw bones or both. In this study, 21 cases were detected in the gingiva, 1 case in each of the lips, cheeks and tongue, and 6 cases in the palate. According to some meta-analysis about oral metastases, the gender distribution is either predominantly male or nearly equal. In this study male cases were the majority (% 63,3 male, % 36,6 female). The overall average age of the cases was 47,17 years, the mean age of female was 49,18 years and the men was 46 years. This finding is consistent with the results of previous studies that reported that oral metastatic tumors were diagnosed between the fifth and seventh decades [10]. In the literature, it has been reported that multiple signs and symptoms such as pain, swelling, bleeding, paresthesia, and tooth mobility are seen [11]. Similarly, the most common signs and symptoms in our study were swelling (93,30%), pain (43,30%), bleeding (66,70%), and ulcer (83,30%).

Tobacco and alcohol consumption are well-recognized risk factors for cancers of the oral cavity and pharynx [12]. Comparatively few studies have investigated the role of tobacco and alcohol in relation to malign lesions risk. In the literature, smoking and alcohol use are known as risk factors for malignant lesions of the oral region [13]. In this review, it was noticed that there were cases of smokers (30%) and alchol drinkers (26,70 %).

1. **Conclusion**

Maxillary metastases of HCC are rare and may mimic benign lesions; hence, awareness and meticulous clinical and histopathological examinations play an important role in ensuring proper treatment.

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