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Clinical Report



Peripheral Osteoma in Maxilla: Clinical Report

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Peripheral Osteoma in Maxilla: Clinical Report

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Abstract

Osteomas are slow and continuously growing benign bone tumors. Although it is usually seen in the craniofacial region, it can also occur in the jaw bones. Most of the osteomas seen in the jaw bones arise in the mandible. Osteomas, classified as endosteal, peripheral, and extra-skeletal, are more common in women than in men. Lesions that can be overlooked for years without showing clinical symptoms due to their slow growth can be successfully treated with total surgical excision. The recurrence rate at the end of the treatment is quite low, and no case with malignant transformation has been reported so far. The aim of this study is to explain the clinical and radiological appearance and surgical treatment procedure of an osteoma case in the maxilla, which is rare localization.

Keywords: Osteoma, Peripheral Osteoma, Maxilla, Total Surgical Excision, Recurrence.

Introduction

Osteomas are slowly and continuously growing, well-circumscribed benign tumors of the bone tissue.¹ Although the etiology has not yet been fully elucidated, osteomas are thought to develop as a response to trauma or infection.² Osteomas are isolated lesions that are usually seen alone. However, multiple osteomas may also occur, especially in individuals with Gardner's Syndrome.³

Osteomas are divided into three different classes as central, peripheral and extra-skeletal, according to the tissue they originate from.² Central osteomas originate from the endosteum, peripheral osteomas originate from the periosteum, and extra-skeletal soft tissue osteomas originate from muscle tissue.^{4,5} Peripheral osteomas are the most common of the three different types of osteomas.⁶

Orbital wall, temporal bone, pterygoid process and external ear canal, maxillary sinuses are common localization areas of peripheral osteomas.² Lesions are rare in the jaws, but are more common in the mandible than in the maxilla. In the mandible, it most commonly occurs at the lower edge of the angulus and the lingual corpus.^{7,8} In the maxilla, they are usually observed in the vestibule of the molar region, the tuber region, and the alveolar crest.^{9,10} The lesion has a radiopaque appearance in the form of a circular or oval with well-defined borders radiologically.¹¹

Histologically, the lesions may be of compact or cancellous origin. Osteoid tissues contain osteoblast-like cells whose nuclei do not show atypical or malignant transformation.² In the differential diagnosis of the lesion; numerous inflammatory or neoplastic lesions such as chondroma, osteochondroma, Paget's disease, Pindborg tumor, odontoma, and chronic focal sclerotic osteomyelitis need to be considered.¹² The treatment of peripheral osteomas is total surgical excision of the lesion and recurrence is extremely rare, and no malignant transformation after surgical excision has been reported so far.¹³

The aim of this study is to clinically and radiologically describe a case of osteoma of the maxillary bone in a rare location.

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An 84-year-old female patient whose chewing function was interrupted due to partial tooth deficiency and therefore wanted to have a prosthesis, applied to the Oral and Maxillofacial Radiology clinic for her first examination.

In the patient's medical history, no systemic diseases other than hypertension were found. During the physical examination of the patient, no asymmetry, swelling or redness in the maxillofacial region were found (Figure 1).

Figure 1. Extra oral view of the patient's maxillofacial region.



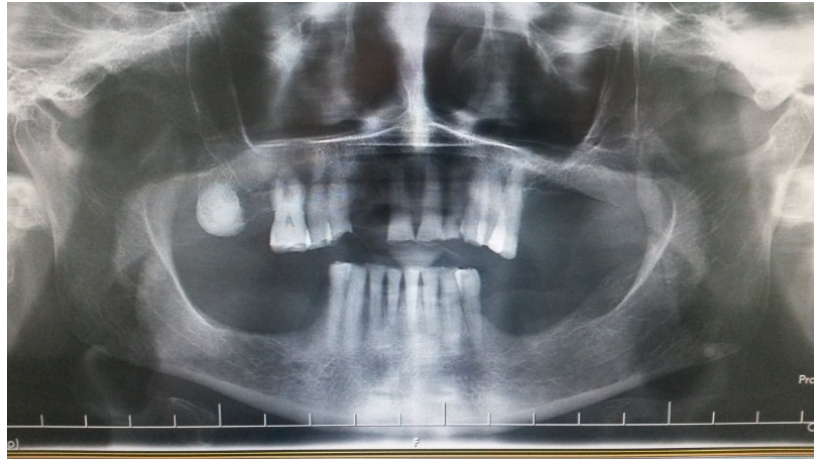
In the intraoral examination of the patient, a color change in the form of whitening was observed in the tuber regions mucosa on the right side of the maxilla. A firm and immobile mass was detected in the area with white discoloration, which was raised from the surface, differing from the normal tissue contours (Figure 2).

Figure 2. Intraoral view of the lesion site.



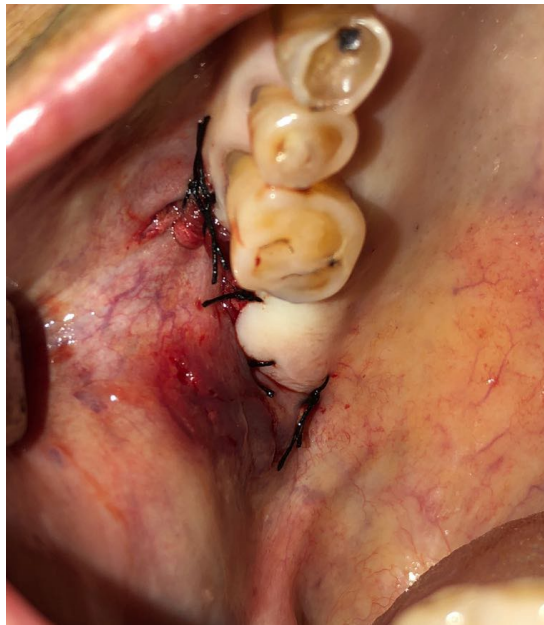
Panoramic radiographic examination revealed a well-circumscribed, radiopaque mass of 17x15 mm in the right tuber region (Figure 3). In patient's anamnesis, she did not have a history of trauma affecting the maxillofacial region, and had no pain or similar complaints in the related region. A preliminary diagnosis of osteoma was made in the light of physical and radiological examination findings.

Figure 3. Radiographic view of the lesion located in the right maxilla.



The patient was given detailed information about the clinical course and treatment of the lesion with a preliminary diagnosis of osteoma. Regional infiltrative anesthesia was applied to the right upper posterior region by using 1.5 ml maxicaine fort ampoule (80 mg/2ml articaine + 0.02 mg/2ml epinephrine). The mucoperiosteal flap was raised by making horizontal and vertical incisions from the right upper first molar to the tuber area. The lesion was excised with the help of micromotor, gouge, hammer and bone forceps. The sharp edges of bone were flattened with a bone file and the wound area closed primarily (Figure 4).

Figure 4. Post- operative view of the lesion area.



Histopathological examination of the lesion was reported as "osteoma", consistent with the preliminary diagnosis. After the recovery period, the patient was treated with removable partial prosthesis. At the end of the 6-year follow-up of the patient, no recurrence was observed.

Discussion

Peripheral osteomas have been reported to occur mostly in the frontal, ethmoidal and maxillary sinuses.¹⁴ Lesions rarely occur on the jaws. It is known that peripheral osteomas formed in the jaws mostly occur in the mandible. In the maxilla, except for the sinuses, the incidence of a peripheral osteoma in the jawbone is much less than in the mandible.¹⁵ Kaplan et al.¹⁶ reported that 81.3% of osteomas formed in the jaw bones were seen in the mandible. In other words, the lesion in the maxilla is very rare, as seen in the present case.

Retrospective studies examining the age distribution of osteomas report that the mean age is 42 years. The same studies show that peripheral osteomas are almost 3 times more common in women than in men.¹⁷ The fact that the case presented in the present study is female, is consistent with the results of previous studies. However, in terms of age, it is seen that the age of the present case is considerably higher than the average age given in previous studies. Therefore, the possibility of peripheral osteoma should be kept in mind in patients with advanced age.

In various studies, it has been reported that the size of peripheral osteomas can be between 10 mm and 40 mm.⁶ In the current study, the lesion is similar to the dimensions reported in previous studies.

In previous studies, recurrence of lesions has been reported to be quite low.^{2,13} In this study, the patient has been followed for 6 years and no signs of recurrence were observed. This may be due to the non-malignant nature of the lesion. However, as with all neoplasms, recurrence is due to inappropriate surgical procedures and techniques, and in cases where total excisions are not successful, new lesions are highly likely to form.

The selection of appropriate radiological examination methods in neoplasms is undoubtedly extremely important. Osteomas can be successfully identified with both conventional and advanced imaging techniques.² However, it is very useful to use techniques such as Cone Beam Computed Tomography (CBCT) to determine the size of the lesion and to prepare the patient for the surgical procedure. Thus, the dimensions of the lesion can be determined exactly and the defects that may occur after the surgical procedure, especially in the maxilla, can be predicted. This can increase the comfort of the patient, especially in the post-operative period. Although the CBCT technique gives precise dimensions, conventional radiographs are also very effective in the pre-diagnosis of osteoma, as in this study.²

Conclusion

Peripheral osteomas are rarely seen in the jaw bones, especially in the maxilla. Lesions are usually asymptomatic. Lesions can be very small or reach very large sizes, and they are much more common in women than men. Appropriate surgical techniques greatly reduce the risk of recurrence of lesions.

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