PERIPHERAL OSTEOMA OF THE MAXILLA: REPORT OF AN UNUSUAL CASE

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ABSTRACT
Peripheral osteomas of the maxilla are relatively rare. A case of a solitary peripheral osteoma of the anterior maxilla in a 30-year-old female is presented. The tumor was asymptomatic and was removed via an intraoral approach without any complications. Both hamartomatous and neoplastic factors have been advocated concerning the pathogenesis of such lesions, but no definite conclusion has been reported. Intraoperatively noted infiltration of the interdental bone, and clearly abnormal histological bone structure might support the neoplastic nature of this lesion.

KEYWORDS: Osteoma; peripheral osteoma; anterior maxilla

INTRODUCTION
Osteomas are often referred to as benign osteogenic lesions, arising from cancellous or compact bone. Clinically they appear circumscribed, usually rounded and protuberant, and are characterized by very slow, continuous growth. Various etiopathogenetic hypotheses have been proposed for osteoma formation. Some have hypothesized that the lesion is caused by congenital anomalies. Another proposal, which is no longer held, was that chronic inflammation caused neoplastic proliferation. The development of these formations may be a result of trauma or embryogenetic changes. Osteomas, usually asymptomatic, often remain undetected unless incidentally found on a routine radiographic survey or until they cause facial asymmetry or functional impairment. They produce symptoms by compression, rather than by invasion or destruction. Depending on the location, they might cause headaches, facial pain or swelling. The lesion has 3 forms: central, peripheral, or extraosseous. The central form derives from the endosteum and the peripheral form derives from the periosteum, whereas the extraosseous form develops in muscular tissue structures. This lesion has a higher prevalence in males with almost double the number of cases in men than in women. When multiple osteomas are present, the possibility of Gardner syndrome should be considered. Osteomas are the most common accompanying bone lesion seen in Gardner syndrome. Soft tissue osteoma (also known as osteoma of soft parts, or osteoma mucosae) is a rare entity. The lesion has a strong predilection for the head and neck region, mainly in the posterior region of the tongue. Histologic features are usually those of a well-circumscribed mass of vital mature bone beneath the surface epithelium. Monserrat was the first to report an osseous lesion in the tongue and used the term “lingual osteoma,” which by definition implies a true neoplasm. Apart from osteomas related to Gardner’s syndrome, few cases involving the maxilla have been reported. The aim of this paper is to present an unusual case along with an analysis of the literature in order to contribute to the knowledge concerning the pathogenesis, differential diagnosis, and management of these lesions.

CASE REPORT
A 30-year-old female presented in the Oral and Maxillofacial Surgery, Department of Modern Dental College & Research Centre Indore in September 2013, seeking treatment for a slowly
Peripheral Osteoma Of The Maxilla

Gupta KC, Mudgal A, Rajpal P, Hashmi S

An enlarging, asymptomatic mass in the anterior part of the maxilla that had appeared 2 years earlier. The mass has reached the present size within one and half year of its onset but is now static since last 6 months. There was no history of trauma in the related area. Her medical history was non-contributory. Intraoral examination revealed a well-defined swelling on labial surface of attached gingiva in relation with 21. The lesion was firm, hard to palpation, sessile, non-reducible, non-tender and measured about 1 cm in diameter. The overlying mucosa was blanching. The surrounding mucosa was normal in color (Fig 1). All the upper anterior teeth responded normally to vitality tests. No enlarged regional lymph nodes were palpable. Intra oral & occlusal radiographs were taken but no relevant findings could be seen. A working diagnosis of as ossifying fibroma was made. Patient was scrubbed & draped under all aseptic precautions & was planned for excision of the mass under local anaesthesia. An incision was then planned over the centre of the lesion extending mediolaterally from one end to the other (Fig. 2). The flap was then reflected from both superior and inferior directions to expose the lesion (Fig. 3). A decision was made to excise only the protruding part of the lesion, in order to preserve the integrity and vitality of the adjacent teeth. Chisel and mallet was then used to excise the mass from the bottom by engaging the chisel at the base of the lesion. During excision, the bony mass appeared hard and homogeneous in substance. Intraoperatively, the limits between the normal bone and the lesion were unclear, even though the latter was protruding and was harder than normal bone. A part of the protruding lesion was harvested to obtain a definite histological diagnosis. The residual bed was debrided and smoothed and the flap was sutured (Fig. 5).
residual bed was debrided and smoothed and the flap was sutured (Fig. 5). The patient tolerated the procedure well. Sutures were removed on the seventh postoperative day and the postoperative course was uneventful (Fig. 6). Grossly, the specimen consisted of a homogeneous mass of cortical bone. Histologically, it consisted of dense compact bone with no evidence of active or previous inflammation. The tissue structure differed significantly from the normal bone structure. No haversian systems were visible (Fig. 7). The diagnosis was osteoma. The patient was scheduled for regular follow-up, because recurrence of the lesion is expected.

**DISCUSSION**

Osteomas are rare, benign, bony neoplasms that grow slowly and present different clinical presentations. The exact incidence is unknown because most osteomas remain undetected because of an absence of symptoms. In fact, they are generally diagnosed after radiologic evaluations performed for other reasons. Osteomas are found at nearly any age and may be solitary or multiple. When multiple, they are often associated with Gardner’s syndrome, including multiple intestinal polyps with malignant potential, unerupted normal and supernumerary teeth, and cysts and skin fibromas. No such lesions were found in this patient. The etiologic pathogenesis of osteomas remains unclear, with different proposed roles for a reactive mechanism (triggered by trauma or infection) or muscle traction. Associated signs and symptoms depend on the location, size, and direction of tumor growth. Neurologic disturbances may appear when compression of adjacent nerves is associated with the tumor. Histologically, osteomas can be divided into compact and spongiost (or cancellous) osteomas. Compact osteomas, which are more numerous present as hard dense bone with minimal marrow spaces and occasional haversian canals, whereas spongiost lesions contain trabeculae of bone and fibro fatty marrow with osteoblasts. Peripheral osteomas occur most frequently in the frontal, ethmoid, and maxillary sinuses. Other documented locations in craniofacial sites include the external auditory canal, orbit, temporal bone, pterygoid processes, and, rarely, in or on the jaws. Peripheral osteomas of the jaw bones are uncommon. Although osteomas are more common in the young adult, they can be noted at any age. Osteomas of the jaw bones usually appear as unilateral, pedunculated mushroom-like masses. Most often, osteomas are located on the lower border or buccal aspect of the mandible, a site that is more susceptible to trauma than the lingual aspect. Osteomas may also be confused radiographically with odontomas or focal sclerosing osteomyelitis. The differential diagnosis should include several pathologic entities both inflammatory and neoplastic, such as exostosis, chronic focal sclerosing osteomyelitis, ossifying fibroma, chondroma, osteosarcoma, Paget’s disease, fibrous dysplasia, and odontoma, although it has been stated that at its typical site, the lesion cannot be confused with other tumors or tumor like lesions. Most asymptomatic osteomas of the jaws are managed conservatively, although an individualized approach is recommended, considering the size and location of the tumor. Partial removal of the neoplasm can be considered in order to preserve the bone tissue indispensable for prosthetic rehabilitation. Indications for surgical treatment include serious cosmetic disfigurement, limitation or loss of function, significant growth rate, desire for a definitive histopathological diagnosis, or when there are symptoms or complications secondary to the osteoma that have failed to improve despite appropriate medical therapy. Patients with known asymptomatic osteomas should be evaluated every 1 to 2 years to assess growth and to monitor the development of complications. An intraoral approach is always preferable when possible. There are no reports of malignant transformation of a peripheral osteoma. That is why the treatment of asymptomatic lesions is controversial. The slow growth of osteomas allows the physician to maintain a conservative approach toward asymptomatic lesions. When surgery is performed, it is important to plan the surgical approach so that it minimizes damage to adjacent structures. Treatment of the osteoma consists of complete surgical removal at the base where it unites with the cortical bone.

**CONCLUSION**

We preferred surgical excision for the treatment of osteomas. There are no reports of osteomas undergoing malignant transformation. It is appropriate to provide both periodic clinical and radiographic follow-up after surgical excision of a
Peripheral Osteoma Of The Maxilla

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BIBLIOGRAPHY