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OSTEOMA OF RIGHT ANGLE OF THE MANDIBLE – A CASE REPORT.

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ABSTRACT:
A benign, slowly developing osteogenic tumor that proliferates either cancellous or compact bone is called an osteoma. An osseous lesion mostly develops in the head and neck region. Osteoma can be classified into three types. The etiopathogenic of osteoma is unknown. The most frequently affected population is males rather than females. Gardner's syndrome is mostly associated with osteoma. Another rare complication of osteoma is malignant transformation but mostly has a good prognosis if the lesion is removed completely. The differential diagnosis includes exostosis and ameloblastoma. This paper aims to describe an osteoma that originated in the inferior border of the mandible and caused swelling and asymmetry in a 25-year-old female patient.

INTRODUCTION:

A benign, slowly developing osteogenic tumor that proliferates either cancellous or compact bone is called an osteoma (3). An osseous lesion mostly develops in the head and neck region (3). Osteoma is most commonly seen in the craniofacial skeleton which includes peripheral osteoma in paranasal sinuses, orbital wall, temporal bone, pterygoid process, and external ear canal(4) and is rarely seen in other bones (2,4). Osteoma can be classified into three types:1) peripheral osteoma – which arises from the periosteum, 2) central osteoma – which arises from the endosteum, 3) extra skeletal osteoma – which arises from the soft tissues (4). The etiopathogenic of osteoma are unknown but some are caused by congenital, trauma, and embryogenic changes (3). Osteomas of the jawbone are mostly seen in the mandible rather than the maxilla (1-5). In the mandible, the most affected area includes the posterior body, condyle, angle, ramus, and coronoid process (4). By osteoma, the most frequently affected population is males rather than females (1,3). Patients with osteomas are

diagnosed with Gardner's syndrome. This syndrome is characterized by multiple osteomas, supernumerary teeth, gastrointestinal polyps, and tumors of soft tissues and skin (2,3,4). The dentist plays an important role in the diagnosis and management. This paper aims to describe an osteoma that originated in the inferior border of the mandible and caused swelling and asymmetry in a 25-year-old female patient.

CASE REPORT:

A 25-year-old female patient reported to our dental outpatient department (OPD) with a chief complaint of swelling in the lower right back jaw region of her face for the past 6 months. The patient was normal before 6 months and then she noticed a small swelling which was gradual in onset, slowly progressing in size and attained the present size. She had no previous history of any facial trauma apart from aesthetic reasons. The patient had no pain or difficulty in chewing and speech. The patient had no known history of diabetes mellitus, hypertension, asthma, tuberculosis, epilepsy, jaundice, and coronary artery disease.

In the extra-oral examination, inspection, a well-defined, circumscribed swelling seen on the right angle of the mandible of size 2x2 cm which is round was detected. The skin over the swelling appears to be normal and smooth. There is no evidence of pus discharge from the swelling. On palpation, inspection findings are confirmed concerning numbers, size, shape, and extent. The swelling was bony and hard in consistency, non-tender, and non-pulsatile, with size 2x2 cm, and is evident over the right angle of the mandible. The skin over the swelling is pinchable, no evidence of warmth, and non – fluctuate. On bimanual palpation no lymph nodes were palpable.

On intraoral examination, no abnormalities were seen intraorally.

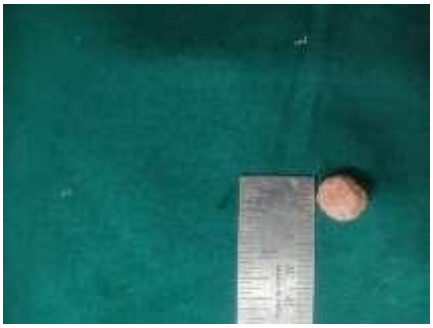
Based on history and clinical examination a provisional diagnosis of osteoma of mandible was made. Differential diagnosis of ameloblastoma was made. The patient was subjected to radiological examination. The panoramic radiographic showed a small well circumscribed, rounded radiopaque lesion in the right angle of the mandible obscuring the mandibular canal. The patient was subjected to further advanced radiographic investigation. CBCT reveals round swelling. Evidence of bony swelling or mass is evident over the lower border of the right angle of the mandible. A radiographic finding was diagnostic of osteoma of the right angle of the mandible that requires treatment as surgical excision. All biochemical and hematological investigations were within the normal limits.

Based on the diagnosis, the patient underwent surgical intervention under general anesthesia, where osseous contouring surgery was planned. Surgical excision of the lesion was done. The specimen is then subjected to a histopathological report. The patient was extubated uneventfully.

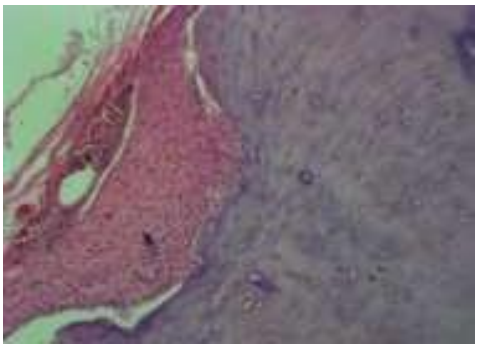
The surgically excised lesion.

HISTOPATHOLOGICAL EXAMINATION:

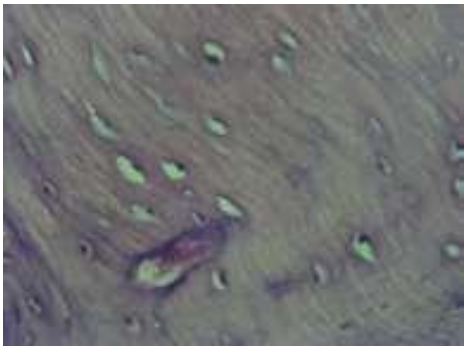
The excised specimen is acquired as an excisional biopsy. On examination, macroscopic features show the single grey-white to grey-brown soft tissues bit with attached bony mass measuring about 1cm in diameter. The external surface was stony and hard in consistency.



On microscopic sections studied show a lesion composed of predominantly lamellar bone with unremarkable osteocytes within the lacunae along with occasional woven bone with the inter trabecular spaces containing blood vessels and fibrous connective tissue.



Histopathological picture showing mature compact bone with prominent resting lines and marrow spaces in between (x10 magnification)



Histopathological picture showing resting osteocytes and marrow spaces in between (x40 magnification).

IMPRESSION: Features consistent with an osteoma of the right angle of the mandible.

DISCUSSION:

Osteoma is a benign osteogenic tumor made up of mature bone tissue that has undergone proper differentiation. Osteomas are primarily malignancies of the craniofacial bone; they seldom impact the extra gnathic skeleton, though there have been documented occurrences of soft tissue osteomas originating within the mass of skeleton muscles. jaw bone osteomas are uncommon. According to reports, the majority of osteomas in their area have happened as peripheral types in the jawbones which is extremely uncommon (3). A mandibular condyle osteoma may result in a gradual shift in the patient's occlusion, with a midline deviation towards the unaffected side. In their study, Sayan et al. reported 22.8% occurrence in the mandible, while Kaplan et al. and Woldenberg et al. showed 81.3 and 64% occurrence in the maxilla, respectively (4). Osteoma affects 0.01–0.04% of the population .2.1% of benign bone tumors and 2.9% of all bone tumors are osteomas. As far as we are aware, till 2013 there have been 87 recorded cases of peripheral osteoma of the lower jaw published in the literature. The mandible's body accounts for 41.3% of the 87 cases, followed by the condyle (21.83%), the angle (16.9%), the ascending ramus (11%), the coronoid process (8%), and the sigmoid notch (2.2%). (3)The location, size, and development direction of the lesion determine the clinical signs, symptoms, and problems. Osteoma-related symptoms typically result from a mass effect when the lesion encroaches on normal structures. There can be a single or multiple osteomas (3). Osteoma can be classified into three types:1) peripheral osteoma – which arises from the periosteum, 2) central osteoma – which arises from the endosteum, 3) extra skeletal osteoma – which arises from the soft tissues (4). The etiopathogenic of osteoma is unknown but some are caused by congenital, trauma, and embryogenic changes (3).). Patients with osteomas are diagnosed with Gardner's syndrome. This syndrome is characterized by multiple osteomas, supernumerary teeth, gastrointestinal polyps, and tumors of soft tissues and skin (2,3,4).Diagnostic differentiation: It is important to distinguish peripheral osteoma from several pathological entities, including exostoses, osteoblastomas, and osteoid osteomas, as well as late-stage central ossifying fibromas and complex odontomas (4). Exostosis is the outward-directed, nontumorous growth of bone tissue; it is referred to as "torus mandibularis" on the mandible and "torus palatinus" on the palate(1). It can be the result of the occlusal force's ongoing stress on the bone. Osteomas and exostoses are both formed of histopathological bone tissue that is histologically mature. According to some writers, one distinction between exostoses and osteomas is the absence of a medullary cavity in exostoses (1). In our case, medullary spaces are seen. Hence we confirmed with the diagnosis of osteoma.All forms of osteomas have a good prognosis, if removed and there haven't been any cases of its malignant transformation.

CONCLUSION:

We presented the case of osteomas of the right angle of the mandible that was reported by a 25-year-old female patient. Based on the biochemical, hematological investigations, and extraoral, and intraoral examinations we concluded the diagnosis as osteoma of the mandible. We came up with a treatment plan for a surgical excision of the lesion. The excised lesion is then subjected to histopathological examinations and the osteoma of the mandible is confirmed as the diagnosis. Recurrence of osteomas is rare, however, periodic follow-up was done(5). Patients with osteomas need careful follow-up because they are diagnosed with Gardner's syndrome. This syndrome is characterized by multiple osteomas, supernumerary teeth, gastrointestinal polyps, and tumors of soft tissues and skin (1-5).

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