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Peripheral Osteoma in a Middle-Aged Female: A Comprehensive Case Report

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Abstract

Osteoma is a benign, slow-growing osteogenic lesion that may develop in the craniomaxillofacial region, including the paranasal sinuses, temporal bone, and jaws. These tumors are composed of compact or cancellous bone and may present as peripheral, central, or extraskeletal variants. Peripheral osteomas originate from the periosteum and typically appear as unilateral, well-defined, pedunculated, mushroom-like masses. Although peripheral osteomas involving the mandible are uncommon, those occurring in the mandibular notch are particularly rare. This report describes a peripheral osteoma of the mandibular notch in a 51-year-old nonsyndromic female, emphasizing its clinical presentation, radiographic features, and management considerations.

Keywords: Peripheral Osteoma, Mandible, Cone beam computed tomography.

Introduction

Osteomas are benign, slow-growing osteogenic neoplasms that most commonly arise within the craniofacial skeleton. They are classified into three types: peripheral, central, and extraskeletal. Peripheral osteomas originate from the periosteum, central osteomas develop from the endosteum, and extraskeletal variants occur within soft tissues. Histologically, osteomas present as

either compact or cancellous types. Compact osteomas are composed of dense lamellar bone with minimal marrow spaces, whereas cancellous osteomas contain trabecular bone with fibro-fatty marrow resembling mature osseous tissue.

Peripheral osteomas usually demonstrate a very slow growth rate and are often asymptomatic, becoming noticeable only when they cause facial swelling or asymmetry. Their exact pathogenesis remains uncertain, with proposed mechanisms including true neoplastic proliferation, developmental anomalies, or reactive processes associated with trauma, muscle traction, or local infection. Although the skull is the most common site, peripheral osteomas may occasionally involve the mandible, particularly the lingual surface, inferior border, body, or angle. Radiographically, they appear as solitary, well-circumscribed, round or ovoid radiopaque masses.

Because they are rare within the jaws and often discovered incidentally, careful clinical, radiographic, and histopathological evaluation is essential for accurate diagnosis and differentiation from other bony proliferations.

The aim of this case report is to present the clinical, and radiological features of a peripheral osteoma occurring in a 51-year-old nonsyndromic female.

Case report

A 51-year-old female reported to the Department of Oral Medicine and Radiology, Darshan Dental College and Hospital, Udaipur, with a complaint of bony swelling on the left lower back tooth region for the past one month. The swelling was asymptomatic, with no associated pain or discharge.

She had no history of dental trauma or previous dental procedures. Her medical history was significant for hypothyroidism for which she was under regular medication. She also reported calcium supplementation and had a history of hip surgery performed two years earlier. There was no history of tobacco, areca nut, or alcohol use. Her general physical examination revealed no abnormalities.

On intraoral inspection revealed poor oral hygiene with heavy calculus deposits (+++), generalized stains (+), and marginal gingival inflammation. The patient had occlusal pit caries irt 17 and periodontal pockets involving 36 and 37. A well-defined, hard bony swelling was observed on the lingual cortical plate in relation to teeth 36–37. On palpation, the swelling was bony hard, non-tender, and immobile, with smooth surface and intact overlying mucosa. There were no signs of ulceration, discharge, or paraesthesia.

Based on clinical features, a provisional diagnosis of peripheral osteoma involving the lingual cortex of the left mandibular molar region was made.

On radiographic examination

Mandibular Occlusal Radiograph: The mandibular occlusal radiograph revealed a well-defined, round to ovoid radiopaque mass measuring approximately 2 × 3 cm on the lingual cortex of the 36–37 region. The lesion showed smooth, corticated borders, appearing to arise from the internal aspect of the mandibular body. The density was similar to normal cortical bone, with no evidence of internal radiolucent areas, root resorption, or cortical destruction. These findings suggested a benign bony exostotic lesion, most consistent with peripheral osteoma.

CBCT Findings (Axial, sagittal and 3D reconstruction)

- A well-defined, lobulated bony outgrowth was seen attached to the lingual cortex of the left mandibular body adjacent to 36 and 37.
- The lesion was characterized by dense cortical bone with internal trabecular pattern, consistent with compact or mixed osteoma.

- The base of attachment to the lingual cortex was broad, with no cortical breach, erosion, or periosteal reaction.
- The lesion projected medially into the floor of the mouth space, correlating with the clinical swelling noted intraorally.
- No involvement of the mandibular canal was noted.
- Tooth positions, periodontal bone levels, and trabecular pattern remained unaffected by the lesion.
- Impacted 38 was incidentally observed with no relation to the lesion.

The overall CBCT interpretation was benign bony growth—suggestive of peripheral osteoma. (Photograph 1)

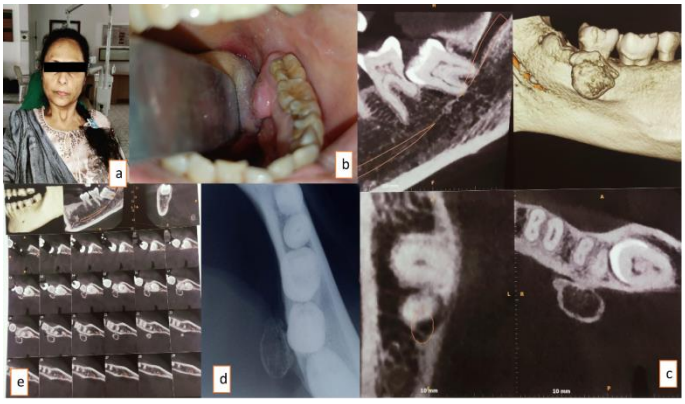

Figure 1: shows (a) Pre-op view; (b) intraoral examination revealing lingual cortical expansion; (c) CBCT images with axial, coronal, and 3D reconstruction of the lesion; (d) periapical radiograph showing a well-defined radiopaque mass; (e) sequential CBCT slices demonstrating the lesion's full extent.

Based on clinical appearance, radiographic characteristics, and CBCT findings, a final working diagnosis of: Peripheral Osteoma of the Lingual Cortex in the 36–37 Region.

Management

The patient was referred to the Department of Oral and Maxillofacial Surgery for surgical excision of the lesion and to the Department of Periodontology for management of periodontal pockets and oral hygiene improvement. Surgical removal was advised due to progressive size and interference with oral hygiene maintenance.

Discussion

Peripheral osteoma is an uncommon benign osteogenic neoplasm characterized by the proliferation of mature compact or cancellous bone. Although osteomas may arise in various craniofacial sites, involvement of the mandible remains relatively rare, and lesions originating from the mandibular notch or adjacent regions are particularly uncommon. The etiology remains uncertain, with proposed mechanisms including developmental anomalies, reactive proliferation following trauma, chronic inflammation, and muscle traction. However, none of these theories fully explains all cases, and most lesions, including the present case, occur without any identifiable precipitating factor.

Clinically, peripheral osteomas are slow-growing and often asymptomatic for several years. Symptoms typically arise only when the lesion interferes with normal function, produces facial asymmetry, or impinges on adjacent anatomical structures. In this case, the patient presented with a gradually enlarging bony swelling, which is consistent with the typical indolent behavior of peripheral osteomas. Radiographically, these lesions appear as well-circumscribed, homogenous radiopaque masses attached to the cortical surface by either a broad base or a pedunculated stalk. Computed tomography is particularly valuable, as it delineates the lesion's extent, density, and relationship to adjacent anatomical structures.

Differential Diagnosis

Distinguishing peripheral osteoma from other radiopaque jaw lesions is crucial. Exostoses, including torus palatinus or mandibularis, are developmental

hamartomas that usually stop growing after puberty. Unlike osteomas, they do not demonstrate continuous enlargement into adulthood and are strongly site-specific, making them unlikely in this case.

Osteochondroma may present as a bony outgrowth but typically contains a cartilage cap and arises from endochondral bone, showing mixed radiodensity rather than the uniformly radiopaque appearance characteristic of osteoma. Osteoid osteoma and periosteal osteoblastoma are important considerations but differ clinically by presenting with notable pain, rapid growth, and more aggressive radiographic features.

Malignant conditions such as parosteal osteosarcoma must also be excluded. Osteosarcomas display poorly defined borders, cortical disruption, and periosteal reactions such as sunburst appearance or Codman's triangle—features not observed in this case. Fibrous dysplasia and Paget's disease can show radiopaque changes but typically produce diffuse, poorly demarcated lesions rather than a discrete, pedunculated mass.

Management and Prognosis

Complete surgical excision at the cortical base remains the treatment of choice. Recurrence is exceedingly rare, with only isolated cases documented. Malignant transformation has not been reported. Long-term follow-up is recommended to monitor for any regrowth or functional disturbances.

Conclusion

Peripheral osteoma of the mandible is an uncommon benign osseous tumor that typically presents as a slow-growing, well-defined bony mass. Although its exact etiology remains uncertain, careful clinical assessment combined with appropriate imaging allows accurate diagnosis and distinction from other radiopaque jaw lesions. In the present case involving a 51-year-old female, the lesion exhibited classic radiographic and clinical features, enabling successful surgical management. Complete excision remains the treatment of choice, with an excellent prognosis and minimal risk of recurrence. Regular postoperative follow-up is advised to ensure long-term stability and to monitor for any unexpected regrowth.

References

1. Ragupathy K, Priyadharsini I, Sanjay P, Yuvaraj V, Balaji TS. Peripheral osteoma of the body of mandible: a case report. Journal of maxillofacial and oral surgery. 2015 Dec;14(4):1004-8.
2. Kashwani R, Kumari P, Sawhney H, Singh M, Gahlot J. Solitary benign peripheral osteoma of angle of mandible diagnosed using cone beam computed tomography: A case report. Arch Dent Res. 2023;13(1):49-52.
3. Sumalatha MN, Sreedhar G, Vaaka PH, Gandikota K. ISSN: 2320-5407 Int. J. Adv. Res. 9(04), 194-196.
4. Deliverska E. Peripheral osteoma of mandible-a case report and analysis of literature. Journal of IMAB–Annual Proceeding Scientific Papers. 2016 Sep 1;22(3):1274-8.
5. Maksoud C, Akouri E, Chammas C, Aoun G, Akouri EE. Peripheral osteoma: a report of a case in the Anterior Mandibular Region. Cureus. 2023 Nov 5;15(11).
6. Agrawal R, Agrawal S, Bhargava S, Motlani M, Agrawal R. An uncommon case of solitary peripheral osteoma in the mandible. Case Reports in Dentistry. 2015;2015(1):319738.
7. Iwai T, Izumi T, Baba J, Maegawa J, Mitsudo K, Tohnai I. Peripheral osteoma of the mandibular notch: report of a case. Iranian Journal of Radiology. 2013 May 20;10(2):74.
8. Saini S et al. Int J Otorhinolaryngol Head Neck Surg. 2025 Jun;11(3):288-290.