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Osteoma of mandible: A case report

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SUMMARY

Osteoma is a leisurely growing benign tumour involving bone consisting of well differentiated compact or cancellous bone that increases in size by continuous growth. It can be of a central, peripheral or extraskeletal type. The peripheral type emerges from periosteum. Solitary osteoma can be classified as peripheral (parosteal, periosteal or exophytic) when arising from the periosteum, central (endosteal) when arising from the endosteum or extraskeltal (so- called osseous choristoma) when arising in soft tissue. This article describes a case of 27 years old female who presented with painless swelling in the left body mandible and which was slowly growing and resulted in facial disfigurement. Ostectomy of the lesion was done under general anaesthesia. Postoperatively there was no complication and there was no facial asymmetry. After one year of follow up no recurrence was noted and patient has been kept on regular follow up.

Diagnosis of osteoma from other similar lesions is important for proper management of the lesion. Recurrence of peripheral osteoma after surgical excision is extremely rare.

Keywords: osteoma, exostosis, Gardner's syndrome, benign tumor.

INTRODUCTION

Osteoma is a benign osteogenic lesion characterized by the proliferation of compact or cancellous bone (1). It can be of a central, peripheral or extraskeletal type (2). The pathogenesis is unclear (1) can occur at any age with no gender preferences (3) and mandible is more commonly involved (2). Histologically osteomas usually show trabeculae of lamellar bone with a fibrofatty marrow (4). Radiograpically osteoma is characterized by a broad base or pedicle to the bone cortex (1).

CASE REPORT

A 27 years old female reported with a chief complaint of swelling in the chin region since eight years and desired to get treated. The growth started spontaneously without any history of trauma. Initiallt it was peanut shaped, gradually increased to present size and non-tender.

On extraoral examination there was slight asymmetry on left mental region (Figure 1). The lesion was roughly oval in shape and not attached to overlying skin. Superio-inferiorly it was extending from left lower border of mandible to 3 centimetres below the border, anterio-posteriorly two centimetres away from symphysis region till thyromental angle and medially crossing the midline. It was firm and bony hard consistency, not fixed to overlying skin and on auscultation bruit was absent which signifies that it was not an arteriovenous malformaton. Intraorally it didn't involve floor of the mouth and non-palpable.

Orthopantomogram (OPG) revealed a well-defined radiopaque lesion extending along lower part of mandible from periapical region of 45 to 36. In High Resolution Computed Tomography (HRCT) size of it was (3.3×4.2×2.5 cm) and bone density was 1550 HU (Figure 2). Based on clinical and radiological findings, provisional diagnosis of peripheral osteoma was made.

Surgical excision of the lesion (Figure 4) was done under general anaesthesia through submandibular incision (Figure 3) myocutaneous flap was elevated and the lesion was exposed (Figure 4) and excised using oscillating jaw of Stryker Kit. The excised specimen (Figure 5) was submitted for histopathological analysis which showed compact dense bone, numerous osteocytes residing lacunae along the concentric resting lines, sparse marrow tissue with extravasated RBC's confirming osteoma. So,

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Fig. 1. Left Lateral View (published with the patient's or parent's or guardian's consent)

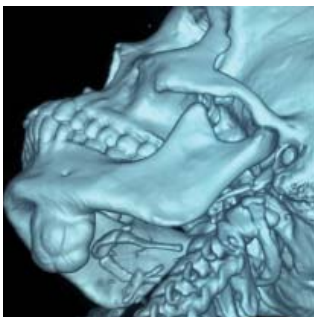

Fig. 2. 3-D reconstruction of High Resolution Computed Tomography revealing lesion extending along lower part of mandible of size–3.3×4.2×2.5cm

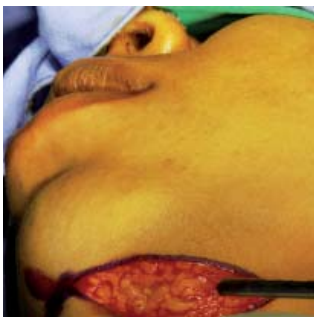

Fig. 3. Submandibular incision

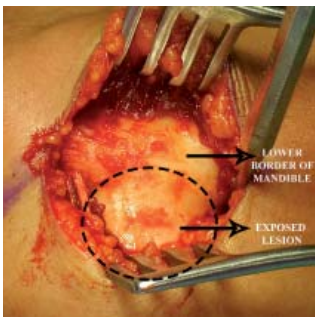

Fig. 4. Elevation of myocutaneous flap

based on clinico-histopathological and radiological finding the patient was diagnosed with peripheral osteoma of left body of mandible.

Patient was followed up for twenty four months there was no sign of recurrence and didn't have any complaint (Figure 6).

Fig. 5. Excised specimen

Fig. 6. Frontal view of profile

DISCUSSION

Osteomas are defined as benign osteogenic lesions predominantly composed of osteoblastic connective tissue, which forms abundant osteoid and new bone that eventually mature to compact bone over a period of time (5). Solitary osteoma can be classified as peripheral (parosteal, periosteal or exophytic) when arising from the periosteum, central (endosteal) when arising from the endosteum or extraskeltal (so-called osseous choristoma) when arising in soft tissue (1). In our case, it was arising from left lower border of body of mandible confirming periosteal peripheral osteoma.

To the best of our knowledge, this is the first time a peripheral osteoma of size 3.3×4.2×2.5 cm reported. The etiopathogenesis of osteoma is unknown, being proposed three theories: developmental defect, neoplastic nature, reactive lesion due to trauma or local infection (6). The rate of incidence is 0.01-0.04 % of the population (2). In mandible, the body of the mandible has the highest incidence (Table 1) (7). It is a slowing and painless growth (6). The clinical signs, symptoms and complications depend on the location, size and growth direction of the lesion, symptoms related directly to an osteoma generally arise from the mass effect as the lesion impinges on normal structures (2).

Patients with osteomas should be evaluated for Gardner's syndrome (7) as the syndrome consists of multiple osteomas, supernumerary

Table 1. Incidence of osteoma in mandible

Region involved	(%)
Body	41.5
Condyle	23.2
Angle	14.6
Ascending ramus	11
Coronoid process	8.5
Sigmoid notch	1.2

Table 2. Di Girolamo Classification Based on Location

Clinical features	Pathology			
	Tori	Exostosis	Osteochondroma	Osteoma
Age	Stops after puberty	Stops after puberty	1st four decades	2nd – 5th decades
Site	mandible – lingually	maxilla – bucally	Condyle, coronoid process	Body of mandible
Shape	Roughly oval	Roughly oval	Oval/eliptical	Roughly oval
Size	<2cm	3-4 cm	Can be >4 cm	Can be >4 cm
Radiologically	radiopaque	radiopaque	radiolucent	Uniformly radiopaque
Bone density	<1300 HU	<1300HU	<1250 HU	>1350 HU
Histologically	Cancellous bone	Cancellous bone surrounded by cortical bone	Hyaline cartilage, deposition of woven bone	Dense bone, minimal marrow tissue.

teeth, adenomatoid gastrointestinal polyps and tumors of soft tissue and skin (2). In our case on further evaluation patient was not having Gardner's syndrome.

The differential diagnosis of peripheral osteoma includes tori, exostosis, osteochondroma, osteoblastoma and osteoid osteoma (Table 2) (7). Exostosis are hamartomas, presenting symmetry and predilection on the lingual and vestibular side of the mandible, palatine raphe and vestibular region of maxilla osteoblastoma and osteoid osteomas are true osseous neoplasm and patient complains of severe localized pain (6). In our case patient did not have any problem except facial asymmetry.

Treatment of the osteoma consisting of complete surgical removal from the base where it unites with the cortical bone (2). There is no reports of malignant transformation and rate recurrence is extremely rare but patient should be under periodic follow up for minimum two years (1).

CONCLUSION

Diagnosis of osteoma is usually by clinical and radiological examinations. Osteomas are treated surgically with periodic follow up minimum of two years.

Ethical approval: All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed consent was obtained from the individual participant included in the study.

REFERENCES

1. Javier Ata-Ali, Fadi Ata-Ali. Gaint peripheral osteoma of the mandible simulating a parotid gland tumor. Brazilian journal of otorhinolaryngology 2017: 1-3.
2. Karthik Ragupathy, Indira Pridharsini, P. Sanjay, V. Yuvaraj, T.S. Balaji. Peripheral osteoma of the body of mandible: a case report. J. maxillofac. Oral Surg 2015December; 14(4): 1004-1008.
3. Manoela Moura De Bartoli, Luis Felipe Oliveria Maciel, Marilia Gabriela Mendes de Lenar, thiago Coelho Gomes da Silva and Ricardo Jose Holanda Vasconcellos. Surgical treatment of osteoma in the basilar region of the mandible. The journal of craniofacial surgery 2018: 1-2.
4. Nejat Bora Sayan, Cahit Ucok, Hakan Alpay Karasu and Omer Gunhan. Peripheral Osteoma of the Oral and Maxillofacial Region: A Study of 35 New Cases. Journal of Oral and maxillofacial Surgery 2002; 60: 1299-1301.
5. Kumar Nilesh, Aaditee V. Vande, Suresh K. Veerabhadrappa. Solitary peripheral ivory osteoma of the mandible presenting with difficulty in diglutition : a case report. Journal of dental research, dental clinics, dental prospects 2017; 11(1): 56-60.
6. Andre Bachega Gomes Geron, Vinicius Almeida Carvalho, Luciana Yamamoto Almeida, Jrge
7. Esquiche Leon, Alexandre Elias Trivellato and Cassio Edvard Sverzut. Surgical management Of traumatic peripheral osteom of the mandible. Journal of Craniofacial Surgery 2017: 1.

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