

OSTEIOD OSTEOMA OF THE MAXILLA

(REPORT OF A CASE)

* Dr. P.K. Dayal, M.D.S.

** Dr. Ms. J.S. Shah, M.D.S.

*** Dr. M. Subhash Reddy, B.D.S.

**** Dr.R. Gopakumar, M.D.S.

ABSTRACT

Osteoid Osteoma in the maxilla of a 35 year old female patient has been reported because of its rare occurrence. Clinically there was a hard and tender swelling. Radiograph showed a clinical appearance of osteoid osteoma i.e., radiopaque mass surrounded with radiolucent area. Histologically there was trabecular pattern with fibrous stroma. A case report of osteoid osteoma with review of literature is presented.

INTRODUCTION

Osteoid osteoma of the jaws occur relatively rare. The term Osteoid osteoma was first used by Jaffe who considered it a distinct entity and variation form of osteoma¹. Since Jaffe's report a large series of cases of Osteoid osteoma of the long bones have been reported in the literature. However, only a few instances involving the jaws have been reported². About 50% of these tumours are seen in femur and tibia.⁹ Tumour occurs rarely in mandible and maxilla^{10,11,12,13}. It is rarely seen in individuals over 30 years and it seems to occur twice as frequently in males^{9,14}.

Lichenstein in 1965³ described the osteoid osteoma as "a small oval or rounded tumour like nidus which is composed of osteoid and trabeculae of newly formed bone deposited within a stratum of highly vascularised osteogenic connective tissue."

Nowparast et al. (1979)⁴ defined benign osteoblastoma as solitary osteoid and bone producing tumour characterised by prevalent active osteoblastic and richly vascularised fibrous stroma.

In 1976 a total of 25 cases (10 in maxilla and 15 in mandible) of benign osteoblastoma were collected from the literature also including the lesions that had been described as osteoid osteoma⁵.

Osteoid osteoma occurs in or near the cortex and it is usually painful. The local pain seems to be due to nerves

which accompany the blood vessels into the tumour's richly vascular nidus⁶.

Radiographically, it shows a radiopaque nidus surrounded by a difused and irregular radiolucency which is surrounded in turn by bone of increased radiopacity⁷. It is treated by a complete excision to preserve vital structures such as nerves and teeth². This paper describes a case of Osteoid osteoma that was located in the maxilla of a 35 year old female patient.

CASE REPORT

A 35 year old female patient attended the oral diagnosis clinic, complaining dull pain of 10 years duration in the edentulous area of upper right second premolar and first and second molars. Following extraction of the teeth in the area, she had developed dull pain. During the last five years, the pain has become continuous and for the last one month the pain has become severe in nature. She had been taking analgesics for temporary relief of pain.

On clinical examination, the affected region had a small, hard swelling which was very tender on palpation. There was no inflammation on the overlying mucosa. Her oral hygiene was poor and had chronic periodontitis. A periapical radiograph of the affected area showed a radiopaque mass



Fig.1: Intraoral periapical radiograph of the patient showing radiopaque mass in the maxillary right first molar region.

surrounded by a radiolucent area (Fig.1). The radiopaque mass did not resemble a tooth or any part of the tooth. The diagnosis was considered as Osteoid osteoma.

* Senior Professor and Head of the Department

** Assistant Professor at the Government Dental College, Ahmedabad

*** Post-graduate Fellow

**** Assistant Professor

Department of Oral Medicine and Radiology A.B. Shetty Memorial Institute of Dental Sciences, Mangalore.

The hard swelling was explored surgically and the inside mass was excised and sent for histological examination (Fig.2).

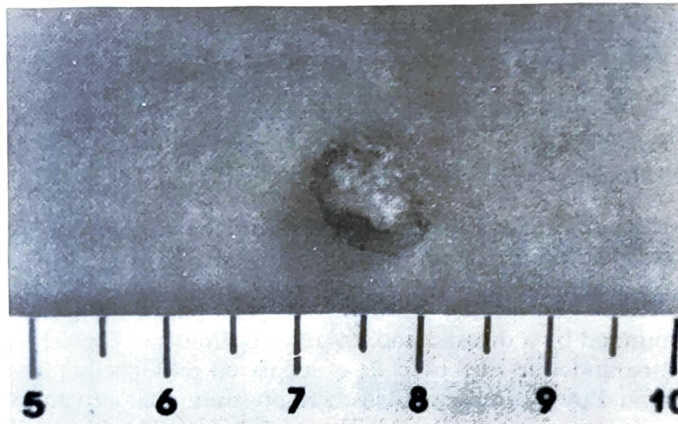


Fig.2 : Photograph showing excised lesion of the patient measuring approximately 1 cm in diameter.

HISTOLOGICAL DIAGNOSIS:

The lesion showed osteoid and trabeculae of newly formed bone surrounded by a highly cellular fibrous and osteogenic stroma (Fig.3). There were no signs of malignancy. The histologic picture was compatible with that of cementoblastoma or Osteoid osteoma. Mature lamellar bone with Haversian System and Lacunae are seen surrounding fibrous connective tissue. There was absence of osteoblastic lining.



Fig.3 : Low power photomicrograph of the lesion showing trabecular pattern of the bone and highly cellular fibrous stroma with osteoblasts.

Following excision, after one month the periapical radiograph of the same area was taken which revealed normal healing. (Fig.4). The pain in the affected area had disappeared following excision and there was no sign of recurrence. Healing was uneventful.

DISCUSSION

Clinically and radiographically, the Osteoid osteoma can be suspected in a painful bony area appearing in radiograph as a radiopaque nidus surrounded by a difused and irregular radiolucency which is surrounded in turn by bone of in-



Fig.4 : Post operative periapical radiograph of the patient showing normal healing.

creased radiographic density⁷. In the present case the lesion was in maxilla. The occurrence of this tumour appears to be rare in the jaws⁸.

Characteristically the symptom of this lesion is severe pain that is disproportionate to its size. It has been speculated that this pain may be caused by nerves which accompany the blood vessels into the tumour of richly vascular nidus^{2,6}.

The differential diagnosis of this lesion includes osteoblastoma, cementifying fibroma, ossifying fibroma and osteomyelitis. As regards differentiation of osteoblastoma, it has been suggested that both the lesions are one entity of osteoblastic derivation though a distinguishing factor may be the size^{2,8}. Osteoid osteoma is generally smaller in size and rarely exceeds 1 cm. in diameter. Osteomyelitis differs from both the lesions by the presence of inflammatory cells, necrotic bone and verifying degree of fibrosis. The fibroblastic stroma of the ossifying fibroma, cementifying fibroma seems to be very much identical. However, quantity of stroma is an important factor.

Histologically, it is characterised by prevalent osteoblasts showing the area of reactive sclerotic bone and richly vascularised fibrous stroma^{4,8}.

Complete removal of the lesion including the nidus relieves painful symptoms. Recurrence does not take place if the lesion is totally excised⁸.

References

1. Jaffe H.L.: Osteoid osteoma: benign osteoblastic tumour composed of osteoid and atypical bone. *Arch. Surg.* 31:709, 1935.
2. Vander Waal, R.B. Greebe and E.A. Elias: Benign osteoblastoma or Osteoid osteoma of the maxilla. *Int. J. Oral. Surg.* 1983; 12: 355-358.
3. Lichtenstein L: Bone Tumours, 3rd ed. St. Louis, CV Mosby, 1965, p.90.
4. Nowparast B., Mesgarzadeh A., and Lassemi I: Benign osteoblastoma of the mandible. *Int. J. Oral. Surg.* 1979; 8: 386-390.
5. Farman A.G., Nortje C.J. and Grotepass F.: Periosteal benign osteoblastoma of the mandible: Report of a case and review of the literature pertaining to benign osteoblastic neoplasms of the jaws. *Br. J. Oral Surg.* 1976; 14:12-22.
6. Sherman M.S., McFarland G.: Mechanism of pain in Osteoid osteoma. *South Med. J.* 58: 163, 1965.
7. Stafne E.C.: *Oral Roentgenographic Diagnosis*: 3rd Ed. 1969, W.B. Saunders Co. USA. p. 191-192.
8. Micheal A., Zulian S., Kirk Vincent W., Robert Hiatt, Osteoid osteoma of the mandibular ramus: *J. Oral Maxillofac Surg* 45: 712-714, 1987.
9. Barnes L., Verbin R., Goodman M.: Diseases of the bones and joints, in Barnes L., et al. (eds.): *Surgical Pathology of the Head and Neck*, New York, Marcel Decker, 1985, pp. 883-1044.
10. Byers P.D. Solitary benign osteoblastic lesions of the bone, *Cancer* 22: 43, 1968.
11. Freiburger R.H., Lortman B.S.: Osteoid osteoma. *Am. J. Roentgenol.* 82: 194, 1959.
12. Jackson I.J.: Osteoid osteoma of lamina and its treatment. *Am Surg.* 19: 17, 1953.
13. Schajowicz F., Lemos C.: Osteoid osteoma and osteoblastoma *Acta Orthop Scand* 41: 272, 1970.
14. Fowles S.J. Osteoid osteoma. *Br. J. Radiol.* 37: 245 1964.