

## Case Report

### Intraosseous Lipoma of the Mandible: A Case Report and Review of the Literature

Nevin Büyükyüz, Sertan Ergun, Murat Öztürk, Vakur Olgac

#### Abstract

Lipoma is a benign tumor which consists of mature adipose tissue and represents the most commonly diagnosed mesenchymal neoplasm. It is the most common form of soft tissue tumor where as intraosseous lipomas are uncommon and are considered among the rarest benign primary tumors of bone. There are only few documented cases of central lipomas in the jaws. This report describes a rare case of mandibular intraosseous lipoma in the incisor area in a 48-year-old female patient and summarizes the related literature. In conclusion intraosseous lipoma should be considered in the differential diagnosis of other intraosseous lesions. The characteristic finding of this lesion is the presence of mature adipose fat cells and histologic examination is mandatory for the diagnosis.

**Keywords:** Intraosseous; Lipoma; Benign; Neoplasms; Adipose Tissue; Bone Tumor; Mandible.

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#### Introduction

Lipomas are benign tumors of mature adipose tissue with no evidence of cellular atypia.<sup>1,2</sup> They are usually solitary, soft and sessile to polypoid and are composed of mature adipose cells, occasionally with foci of myxoid stroma.<sup>2</sup> Lipomas occur more frequently between the fifth and the seventh decades of the life and have no gender or race predilection.<sup>3</sup> Although lipomas are very common, intraosseous lipoma is a very rare tumor. It is classified as a benign soft tissue tumour (ICD-O code 8850/0) in the WHO histological classification of tumors of the oral cavity, hypopharynx, larynx and trachea.<sup>4</sup> According to the literatures the incidence of intraosseous lipoma is less than 0.1% of all intrabony tumors. Intraosseous lipomas generally present in the metaphysis of the long bones and the calcaneus.<sup>3,5-7</sup> The demographical, radiological and clinical features of the reported cases<sup>3,5,7-22</sup> of intraosseous lipomas of the jaws have been described in Table 1. We report a rare case of an intraosseous mandibular lipoma which was incidentally discovered on the routine radiographic examination.

#### Case Report

A 48 year old female patient was referred by her dentist to the department of oral surgery for evaluation of a radiolucency in the incisor area of the mandible. Orthopantographic examination revealed a bone impacted left upper wisdom tooth, small apical lesions

related to the first right both upper and lower molars. There was an asymptomatic radiolucent area which was located between the mandibular canines and below the apices of mandibular incisors, measuring 3 x 2 cm in its largest diameter with sclerotic margins (Figure 1). No external root resorption was observed. Extraoral and intraoral examination was noncontributory. Pulp vitality tests for the mandibular incisor teeth were positive. There was no history of any systemic disease or trauma in the maxillofacial region. The patient was asked for a computed tomography examination but the patient was afraid of getting an extra X-Ray and refused the computed tomography examination.

A provisional clinical diagnosis of odontogenic cyst was raised and enucleation of the radiolucent lesion under local anesthesia was suggested to the patient. After obtaining informed consent from the patient, under mandibular and infiltration anesthesia bilaterally, the mucoperiosteal flap was raised and the cortical bone was exposed. The lesion was reached, exposed and enucleated, totally. After primary closure of the surgical site, antibiotics (Amoxicillin 1g, twice a day, orally), non-steroid anti inflammatory drugs (Naproxen sodium 550 mg, twice a day, orally) and oral rinse (Chlorhexidine-Gluconate 30 ml, three times daily) were prescribed. The specimens of the lesion

were placed in 10% buffered formalin fixative and processed routinely for light microscopy. Histopathological examination revealed that the lesion was composed of mature adipose tissue and some connective tissue (Figure 2). The definitive final diagnosis of intraosseous lipoma was arrived at. The postoperative healing period was uneventful. In the follow-up period we could not take a control radiograph because the patient refused to submit herself to adjunctive radiographic examination wherefore her fear of getting an extra X-Ray.



Fig. 1. The radiolucent area with sclerotic margins in the symphyseal region of the mandible.

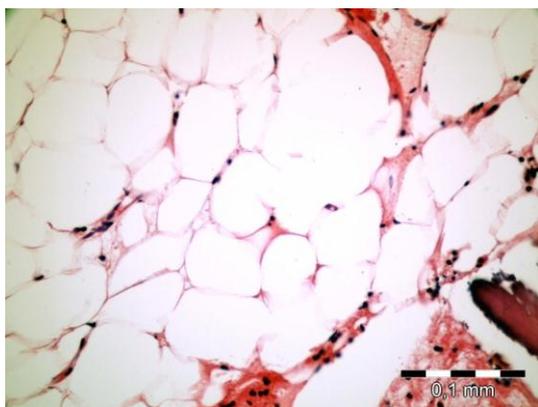


Fig.2. The lesion consists of mature adipose tissue with some bone islands and a calcification area (H & E, magnification X400).

### Discussion

Soft tissue lipoma is a common, benign tumour of adipose tissue that may affect any part of the body. However, although adults have large amount of fatty marrow, intraosseous lipoma is one of the rarest benign tumor of the bone and comprises approximately 0.1% of all bone tumors. These cases usually have been reported in the long bones and calcaneus and rarely in maxillofacial region.<sup>20</sup> Two retrospective studies have analyzed 125 and 58 cases of lipomas respectively, located in the oral and maxillofacial region, and found that no case of lipoma was found in the jaw bones.<sup>1,23</sup>

Literature search revealed that intraosseous lipomas in maxillofacial region are mostly located in the posterior part of the mandible (61.11%), followed by the anterior part of the mandible (22.22%). In our case the lesion was located in the symphyseal mandibular area which was compatible with the literature. Although definitive diagnosis of an intraosseous lesion is possible only by histopathological examination, computed tomography and magnetic resonance imaging findings of intraosseous lipoma are typical. In most patients symptoms are relieved by conservative means. Even if intraosseous lipoma is an uncommon bone tumor, physicians should be familiar with the radiological features of this lesion for the correct diagnosis.<sup>24</sup> In the present case, the lesion appeared in panoramic radiography as a well defined, unilocular radiolucent image with sclerotic margins.

The etiology of intraosseous lipoma is unknown, intraosseous lipomas might be asymptomatic and are found incidentally in radiographic examinations.<sup>7</sup> The most frequent symptoms of the intraosseous lipoma in the jaws are paresthesia and external root resorption, both were absent in our case because of the unique location. Most of the previous references stressed that the treatment protocol of the intraosseous lipoma is surgical intervention by curettage or local resection whereas Bagatur et al., suggest only clinical and radiological follow-up of the intraosseous lipoma is sufficient as computed tomography and magnetic resonance imaging findings of intraosseous lipoma are typical and if there is no risk of pathologic fracture or suspicion of malignancy.<sup>24</sup> No recurrence or any malignant changes of intraosseous lipomas in maxillofacial region have been reported.<sup>3,5,7,20</sup>

Milgram classified intraosseous lipomas into three stages according to their radiological and histological features<sup>17,25</sup> In stage 1, the lesion contains just adipose tissue without any necrosis, cyst or trabecular resorption. In stage 2, there may be occasional adipose tissue, necrosis and regional dystrophic calcifications. In stage 3, there are involutinal changes such as advanced level of adipose tissue necrosis, cyst formation, calcification, and reactive new bone formation. Our case could be classified as intraosseous lipoma in stage 1 because of the absence of any cyst, reactive bone formation and extensive fatty necrosis.

Intraosseous mandibular lipomas which were reported previously were commonly consistent with stage I lesions such as present case.

Authors	Age	Sex	Localization	Clinical Features	Histopathological Diagnosis	Radiographic Features
Oringer (1948)	37	F	Posterior part of the mandibula	Increasing pain during chewing and pressure in molar region	Intraosseous Lipoma	Radiolucency
Newman (1957)	65	M	Posterior part of the mandibula	Asymptomatic	Fibrolipoma	Radiolucency
Johnson (1969)	21	M	Cyst around mandibular right second and third molars	Bad taste, pain, and swelling	Intraosseous Lipoma	Radiolucency
Polte et al (1976)	39	M	Body of mandible	Hypoesthesia of the chin region	Angiolipoma	Radiolucency
Steiner et al (1981)	50	M	Posterior crestal bone and anterior ramus	Asymptomatic	Parosteolipoma	Radiolucency
Lewis et al (1980)	56	F	Mandibular body with mild hypoesthesia	Asymptomatic	Angiolipoma	Radiolucency
Miller et al (1982)	51	M	Impacted left mandibular third molar pathology	Asymptomatic + Impacted third molar	Intraosseous Lipoma	Radiolucency
Heir and Geron (1983)	43	F	Left anterior ramus	Trigeminal neuropathy	Intraosseous Lipoma	Radiolucency
Barker and Sloan (1986)	53	F	Retained root apex of third mandibular molar	Symptomless retained roots	Intraosseous Lipoma	Radiolucency
Mangano et al (1994)	51	M	Mandibular ramus	Symptomless ramus thinning	Angiolipoma	Radiolucency / Radiopaque
Koami et al (1995)	59	M	Symphyseal mandibular gingiva	Symptomless swelling	Intraosseous Lipoma	Radiolucency
Sakashita et al (1998)	17	M	Left Side of Maxilla	Asymptomatic	Intraosseous Lipoma	Radiolucency
Buric et al (2001)	62	F	Symphyseal and paramental region under retained roots	Symptomless swelling	Intraosseous Lipoma	Radiolucency
Keogh et al (2004)	56	F	Posterior part of the mandibula	Symptomless swelling	Intraosseous Lipoma	Radiolucency
Cakarer et al (2009)	45	F	Anterior part of the mandibula	Asymptomatic	Intraosseous Lipoma	Radiolucency
Gonzales-Perez et al (2010)	61	F	Left mandibular ramus	Swelling in the left preauricular region	Intraosseous Lipoma	Radiolucency
Morais et al (2011)	39	F	Posterior part of the maxilla	Discomfort in the region of tooth #28	Intraosseous Lipoma	No radiographic examination preoperatively

Table 1. The demographical, radiological and clinical features of the reported cases of intraosseous lipomas of the jaws.

We previously reported that the majority of the dentists working in Istanbul preferred to consult with specialists in the departments of

dermatology and internal medicine, as opposed to oral medicine or surgery.<sup>26</sup> In the present case, the patient's dentists had

referred the patient to our department for evaluation of the radiolucency in the mandible which he noticed in the routine radiological examination although the patient had no symptoms related to the lesion.

In conclusion, intraosseous lipomas in the jaws are uncommon and are difficult to diagnose. There are few reported cases in the literature of the appearance of intraosseous lipoma in the jaw bones. The influence of the clinical characteristics of this lesion to the decision-making process are not significant. Therefore a histopathological examination is the gold standard for the differential diagnosis. The characteristic finding is the presence of mature adipose fat cells. Complete surgical removal is the treatment choice for intraosseous lipoma with no previously reported recurrence.

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