Rare case of mandibular osteosarcoma: Clinical, imaging and pathological aspects

Regis Manzini1,2*, Idiberto José Zotarelli Filho1,2*, Wesley Antonio Galhardo Fornazari1,2, Tamiris Gomes Mazza da Cruz1,2, Luiz Gustavo Rodrigues Capela1, Moniele Matos Cadamuro1 and Elias Naim Kassis1,2

1Unorp - University Center North Paulista - São José do Rio Preto – SP, Brazil
2Unipos - Post graduate and continuing education, Street Ipiranga, 3460, São José do Rio Preto SP, Brazil

Abstract
The annual incidence of new cases of osteosarcoma (OS) affects about 0.7 million people, is more frequent in males and in the third and fourth decade of life the average age of highest incidence. Since the involvement of maxillofacial region is rare, around 6.0% of all cases of OS. The aim of this study was to report a case of osteosarcoma in the mandible, describing its clinical, imaging and histopathological. Patient female, 20 years old, leucoderma, searched for referral to a specialized clinic in Surgery and Traumatology Oral and maxillofacial. Increased volume of the anterior mandible region has been presented in the case below. Surgical excision margin of safety is the main treatment for OS with local recurrence in approximately 60% of patients, usually during the first year after treatment. Survival rates at 5 years are reported with an average of 43% for OS gnathic. It concludes that OS is an aggressive and rare cancer in maxillofacial region, where surgical excision is the best treatment, with high probability of relapse in the first year.

Introduction
The osteosarcoma (OS) represent 20% of all sarcomas, including preexisting bone abnormalities, previous trauma, osteogenesis imperfect and others. The annual incidence of new cases affects about 0.7 million people, is more frequent in males [1] and in the third and fourth decade of life the average age of highest incidence [1-3]. Furthermore, the occurrence of OS [4] is larger long bones, representing 60% of all malignant tumors [5], with an incidence of 1: 100,000 [6]. Since the involvement of maxillofacial region is rare, around 6.0% of all cases of OS.

Metastases of OS are most commonly observed in lungs or bones [7]. Metastasis in the oral cavity and jaw are rare, about 1% [8], few well-documented cases of metastatic THE oral mucosa are known to 2015 [8]. However, as gap information, because of the relative rarity of this condition, no treatment guidelines based on clearly defined evidence for these tumors.

The most common signs and symptoms associated with OS in the jaw are persistent pain, increased volume and paresthesia [6,9]. The OS are shown as osteoblastic or osteolytic lesions with periosteal reaction in X-rays, and the findings patológicosrevelam osteoid tissue produced by the tumor, with a high density of malignant cells. The histological types are known chondroblastic (41%), osteoblastic (33%) and fibroblast (26%) [4,10]. According to some case series, 50% of the OS in the jaw are chondroblastic, and this type is associated with a better prognosis than other histological types [3,11].

Several authors say that the OS of the maxilla as a specific entity with different clinical behavior of other skeletal bones [1-3,12]. Unlike the OS of long bones, head and neck occur most commonly in the third and fourth decades of life without bias regarding gender [1-3,12,13]. Risk factors have been attributed to the cause of the OS; the rapid bone growth is one of them [14]. Craniofacial are also associated with older patients with Paget’s disease of skeletal [15], fibrous dysplasia and bone as a late sequelae of craniofacial irradiation [16].

The aim of this study was to report a case of osteosarcoma in the mandible, describing it’s clinical, imaging and histopathological.

Case report
A female patient of 20 years with leucoderma was presented with referral to a specialized clinic in oral and maxillofacial surgery and traumatology. The patient presented had an increased volume of the anterior mandible region for 3-4 months. Initially, there was no pain, however, after the first surgical exploration the case evolved with pain, hyperthermia site, tooth mobility, paresthesia in the region, hypersalivation and loss of appetite.

The intraoral examination revealed increased volume of firm consistency extending from the region of 42 to 35, involving the arch, vestibular fornix area and floor of the mouth of the region. Patient was diagnosed with ulcerated lesion in tooth at displacement region between 32 and 33 (Figure 1). A panoramic radiograph revealed a mixed area of irregular and indefinite edges (Figure 2). In computed tomography a tumor mass of aggressive aspect involving the alveolar part can be observed, with expansion of buccal and lingual cortical bone, followed by peripheral bone destruction and irregular high and low density areas (FigureS 3 and 4).

Correspondence to: Idiberto José Zotarelli Filho, Unipos-Post Graduate and Continuing Education, Street Ipiranga, 3460, São José do Rio Preto SP, 15020-040, Brazil, Tel: +55(17) 98166-6357, +55(17) 98803-7459. E-mail: m.zotarelli@gmail.com
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Incisional biopsy was then performed and the harvested material sent to pathology analysis. Histologically, the tumor showed diffuse production of osteoid tissue and chondroid. Immunohistochemical studies revealed reactions positive for S-100 proteins, AML and for Ki-67 and negative for CD 34, desmin and myogenin. The lesion was then diagnosed with OS chondroblastic and the patient was referred to an oncologist (Figure 6). In postoperative of surgical manipulation, extensive tumor of rapid growth, firm consistency and reddish with leucoplastic focuses emerged in manipulated region. It then carried out the mandibular resection with graft reconstruction fibula (Figure 7).

**Discussion**

The affects the head and neck in about 10% of cases. The jaw, as in this case, and the jaw are oslocus most often affected, followed by sinus [17]. The lesions usually have the same behavior reported by the patient, manifesting as a swelling or mass of the jaw or cheek, with or without paresthesia and pain; dental symptoms are less common [18].

The emergence of this injury the 20-year-old goes against the literature that presents higher prevalence in the third and fourth decades of life [2,3]. However, cases in younger patients have also been reported [19]. Because of this, the rapid bone growth is also attributed as a risk factor for the OS. This growth spurt occurs in younger stage and growth centers of the bones are the most affected areas, so the higher incidence of this type of injury in metaphyses of long bones [20].

The lesion was considered as primary, as the patient did not have any predisposing factors known in the literature, such as Paget’s disease, previous exposure to radiation, fibrous dysplasia [15,16]. And clinically, the tumor was found to be the main type previously described [15]. The aggressiveness of the lesion indicated by its evolutionary history 3-4 months is amazing when evaluated the degree of bone destruction in imaging, however, it is reported by other authors as characteristic of this pathology [15].

Radiographically, the lesion showed mixed with standard osteogenic and osteolytic described as a resultant radiation pattern of fine and irregular bone spicules of new bone tissue, which develop towards the outside of the lesion, producing the so-called “appearance of sun rays” [21,22]. Histologically, these snippets of osteoid tissue, a
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