Multiple Myeloma with primary manifestation in the mandible: A case report

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Abstract
Multiple myeloma is a monoclonal malignant proliferation of plasma cells that causes osteolytic lesions in the vertebrae, ribs, pelvic bone, skull and jaw. We report on a clinical case of an 81-year-old male patient who presented with a tumefaction in the mandibular symphysis region, which had evolved over the previous seven months. In the radiographic examination, an extensive osteolytic lesion was observed in the region mentioned above. An incisional biopsy was performed and a histopathological study revealed a malignant hematopoietic neoplasm formed by plasmacytoid cells. During the bone gammagraphy a dissemination of the disease was detected in the scapula, clavicle and ribs. The diagnosis was multiple myeloma. Knowledge about the maxillofacial manifestations of multiple myeloma is important for the early diagnosis of the disease, since its primary form can manifest itself in the jaw. In the clinical case presented here, we highlight the interdisciplinarity needed to obtain a diagnosis and treatment of multiple myeloma.

Key words: *Multiple myeloma, plasmacytoma, mandibular lesion.*

Introduction
Multiple myeloma (MM) is a relatively rare malignant hematological disease, which is characterized by the multicentric proliferation of plasma cells in the bone marrow. It develops mainly in men aged 50 to 80 years, with a mean of 60 years (1). Its occurrence in the maxillaries is very common; however oral lesions rarely appear with primary manifestation of the disease. The more frequent clinical manifestations are persistent pain in the bone, especially in the affected areas, a history of recurrent infection, fever, fatigue, hematological alterations, nephropathy and temporal arteritis (2,3). More than 30% of patients with MM develop osteolytic lesions in the jaw (4). The maxillary lesions are more frequent in the posterior region of the mandible and the pain in the maxillaries may be the initial symptom of the disease. Manifestations such as gingival hemorrhage, odontalgia, paresthesias, dental mobility, ulcerations and increased volume may also be present (3,5-7). From the radiological point of view, MM can exhibit three distinct radiographic aspects in the skeletal system, including, in the maxillaries: 1- bone with no apparent alteration; 2- multiple radiolucent areas; 3- generalized bone rarefaction and osteoporotic alterations (4).

Case description
81-year-old male rural worker, sought treatment at the Serviço de Cirurgia e Traumatologia Bucomaxilofacial do Hospital Geral (Surgery and Oromaxillofacial Traumatology Facility of the General Hospital) in Areias / Brazil,

complaining of increased volume in the mandibular symphysis region, which had evolved over the previous seven months. During physical examination, increased volume was observed in the mandibular symphysis region, with no painful symptomatology. There was hard consistency at palpation, with no alteration in the local cutaneous tissue, and paresthesia in the lower lip (Fig. 1). The patient, who was mandibular toothless, presented with intact oral mucosa and normal coloration. The lateral and panoramic radiographs of the skull showed an extensive osteolytic lesion and ill-defined margins in the mandibular symphysis region and other smaller round-shaped lesions in the body and mandibular limb (Fig. 2) The computed tomography of the inferior segment of the face detected the presence of a diffuse osteolytic lesion, with cortical bone destruction, in the mandibular symphysis region (Fig. 3). The diagnostic hypothesis was a malignant neoplasm to be removed. In the hemogram, we observed a decrease in the number of erythrocytes, in the concentration of hemoglobin, in the hematocrit and in average corpuscular volume. This is indicative of normochromic microcytic anemia, as well as leucocytosis with eosinophilia and lymphocytopenia. An incisional biopsy was performed with previous puncture and aspiration. Histological analysis revealed plasmacytoid cells, with round, eccentric nuclei with fine granular chromatin and evident nucleolus, characteristics of a solid malignant hematopoietic neoplasm (Fig. 4). The diagnosis was of plasmocytoma. After 23 days, the patient returned to the hospital, complaining of pain in the chest. Bone gammagraphy showed other lesions in the left scapula, right clavicle and ribs. Based on the clinical laboratory findings and radiodiagnosis, the definitive diagnosis of Multiple Myeloma was established. The patient was referred to the Hospital Oncológico (Oncological Hospital) for treatment but died nine months later.

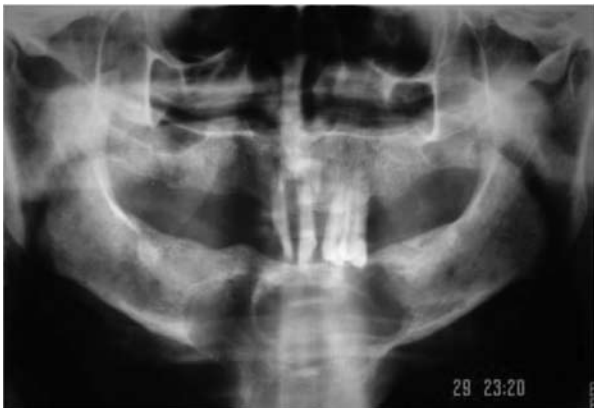

Fig. 2. Panoramic radiograph – radiolucent lesions in the symphysis, body and mandibular limb.

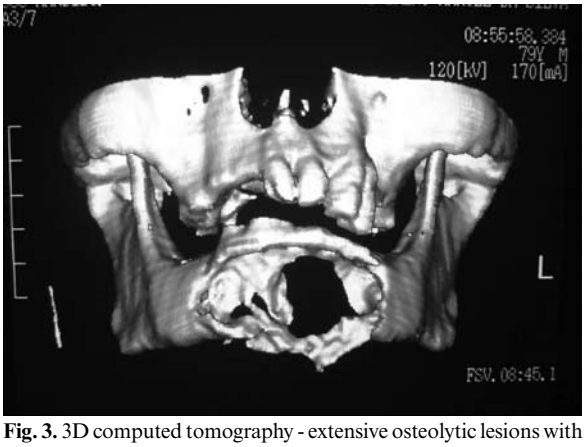

Fig. 3. 3D computed tomography - extensive osteolytic lesions with destruction of the bone cortical in the mandibular symphysis.

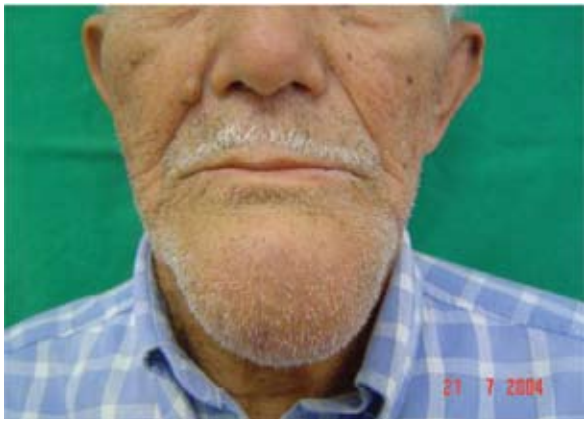

Fig. 1. Clinical aspect – we observe increased volume in the mandibular symphysis region.

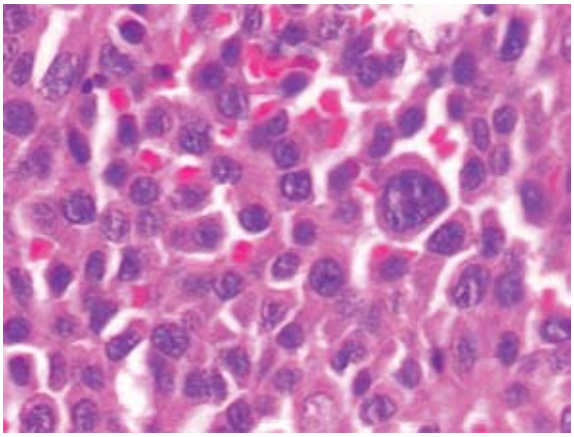

Fig. 4. Histopathology – malignant neoplastic cells with plasmacytoid pattern.

Discussion

Plasma cell tumors are B-cell lymphoid neoplasms classified as multiple myeloma, solitary bone plasmocytoma and extramedullary plasmocytoma (3,8). Multiple myeloma presents in the disseminated form, affecting several bones. Its occurrence in the jaw is common and frequently occurs in the advanced stage of the disease. In the present case, the lesions damaged the mandible and other bone structures such as the scapula, clavicle and ribs. Owing to its dimension and the bone damage caused by the mandibular symphysis lesion, we believe that it was a case of primary mandibular lesion. MM is more frequent in elderly individuals (9,10). As for the clinical manifestations, an increase in volume and pain are the most common. The presence of paresthesia, dental mobility, hemorrhages and pathological fractures may round out the clinical picture (2-5,11). In the present case there was increased volume in the mandibular symphysis with no painful symptomatology and paresthesia in the lower lip. No hemorrhage occurred during the incisional biopsy. The most frequent radiographic characteristics in MM are osteolytic lesions with a "soap bubble" appearance (3,6), as can be observed in the case presented. Gammagraphic analysis showed the multicentric character of the lesions and contributed to establishing the definitive diagnosis. The neoplastic aspect of the plasmacytoid cells was compatible with that described in the literature. Factors such as the clinical stage of the lesion, the advanced age of the patient, the male sex, thrombocytopenia, plasma cell leukemia and Bence Jones proteinuria may determine a worse prognosis for the patient. In the present case, the degree of dissemination of the disease also determined the unfavorable prognosis. Knowledge of the maxillofacial manifestations of multiple myeloma on the part of the dentist is important for early diagnosis of the disease, especially when it occurs in its primary form in the maxillary bones.

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