Multiple Myeloma with a Distinct “sun-ray appearance” Occurring in the Jaw


Dept. of Dental Radiology, School of Dentistry, Iwate Medical University, Morioka, Japan
*Dept. of Radiology, School of Medicine, Iwate Medical University, Morioka, Japan
**Dept. of Oral Pathology, School of Dentistry, Iwate Medical University, Morioka, Japan
***Dept. of Oral Surgery, School of Dentistry, Iwate Medical University, Morioka, Japan
(Director : Prof. Kimio SAKAMAKI)

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Summary

This manuscript presents an unusual radiographic manifestation of multiple myeloma occurring in the mandible. A 40-year-old man, referred to our hospital, presented with a swelling of the right mandible. Microscopic examination and laboratory tests confirmed the diagnosis of multiple myeloma. Radiographic examination revealed a well-developed sun-ray appearance suspected in osteogenic sarcoma. This observation suggested the possibility of the periosteal reaction in this case of multiple myeloma.

Introduction

Multiple myeloma is a neoplastic proliferation of a single clone of plasma cells engaged in the production of a specific immunoglobulin1). This neoplasm may be widely distributed throughout the skeleton, particularly in the ribs, sternum, skull, clavicles, spinal column, and jaws; it is not unusual for the lesions to appear first in the jaw2~4). The characteristic radiographic manifestations of the disease were multiple “punched-out” areas of bone destruction, expansile lytic lesions or generalized osteoporosis. However, in rare cases, the radiographic examination may show osteoblastic activity with new periosteal bone formation5). In the jaws, one case has been described in the literature to our knowledge6). The purpose of this paper is to present a case of multiple myeloma with a distinct sun-ray appearance, and to reveal the possibility of the periosteal reaction occurring in the jaw.
Report of case

A 40-year-old man was referred in September 1985, with a swelling of the right mandible. Ten months previously he had extracted the right first mandibular molar. Three months latter the patient became aware of the swelling at the site of the extraction. A nonpainful swelling increased fairly rapidly. The medical history revealed that he had a craniotomy for subarachnoid hemorrhage 2 years before. Clinical examination showed a facial asymmetry due to enlargement of the right mandible from the mental foramen to the mandibular angle area. This enlargement was hard and presented no evident signs of inflammation. Intraorally there was a submucosal swelling of the right mandible mainly in the molar region. Paresthesia, loose teeth and bleeding were not encountered.

Radiographic examination revealed evidence of periosteal bone formation that appears as spicules or lamellae extending outward from the buccal and lingual surfaces...