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Oral Pathology

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Multiple Myeloma

Multiple myolema is a cancer caused by proliferation of malignant plasma cells in bone marrow. Cancer cells accumulate and outreach healthy cells, and the body loses its ability to fight infections. Multiple myolema begins with one abnormal plasma cell, which multiplies rapidly. These cells produce abnormal antibodies in blood, called M protein and cause problems to the body, such as renal disease and anemia. It also produces and accumulates osteoclastic hormone called interleukin-6, which is released by dendritic cells in the bone marrow, and these factors cause bone to fracture.

The exact cause of multiple myolema is unknown, but it is mostly caused by a benign condition called monoclonal gammopathy of undetermined significance (MGUS).

The risk factors of this tumor are increase in age of 50 year or older, occurs more in males than females and African Americans are more likely to develop multiple myolema than Caucasians, as well as patients with history of MGUS.

There may be no symptoms in the early stage, but if the symptoms do occur, patients may experience bone pain, frequent infection, weakness or numbness or swelling of the legs, fatigue, nausea, and dehydration.

As a dental hygienist, it is important to recognize any oral manifestation of malignancies. Even though oral abnormalities as a sign or symptom of multiple myolema are uncommon, there are lesions associated with this tumor, such as gingival hyperplasia, swelling, orofacial pain, tooth mobility, paresthesia, hemorrhage, fracture and root resorption are more frequently found in the mandible than in the maxilla, especially in the posterior third and angle of the jaw. Osteonecrosis of the Jaw also can be seen in patients with multiple myolema.

The most common radiographic findings are punched-out radiolucency and ill-defined, irregular shaped area of diffuse radiolucency, and mostly involve mandibular posterior regions. Also, radiographs of skull and pelvic reveal osteolytic lesions. Histologically, a lining of stratified squamous epithelium with foci of ulceration and plasma cell myolema in the subepthelial zone are revealed.

The diagnose of multiple myolema can be done by blood and urine test, biopsy, bone marrow examination and imaging test, which include X-ray, MRI, CT and PET. Then, the stages of the disease can be classified. If a patient does not have any symptoms, no treatment is needed, but a patient needs to be monitored by a doctor regularly. If a patient is experiencing symptoms, treatment is needed to help with normal daily activity, although there is no cure. The treatments include chemotherapy, drug treatment with bortezomib (Velcade) and carfilzomib (Kyprolis) IV administration, bisphosphonates, corticosteroids, biologic therapy of taking thalidomide (Thalomid), lenalidomide (Revlimid) and pomalidomide (Pomalyst), and stem cell transplant, It is important to choose appropriate treatment options depend on patient’s health condition, because patients with multiple myolema may cause complication, such as renal disease, anemia, infections and bone loss.

**Reference**

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