Clinical picture

Bisphosphonates and osteonecrosis of the maxilla

A 58-year-old female presented with a 3-month history of unilateral facial pain, swelling, purulent nasal discharge and nasal obstruction. She had been treated with multiple courses of antibiotics without resolution. Her past medical history was significant for post-menopausal osteoporosis diagnosed 2 years before and treated with oral alendronate (Fosamax). Oral examination revealed an edentulous patient with poor fitting dentures. Nevertheless, under the dental prosthesis osteonecrosis of the maxillary ridge was detected (Figure 1). The patient was brought to the operating room for necrotic bone debridement and paranasal sinuses drainage. At 11-month follow-up resolution of the lesion is ascertained.

Bisphosphonate-related osteonecrosis of the jaw (BRONJ) is a serious side-effect of treatment with the new generation of bisphosphonates.1 BRONJ is much more common in patients receiving bisphosphonates for the treatment of cancer-related skeletal events than in patients receiving bisphosphonates for non-malignant diseases.2,3 A recent European study identified osteoporosis accountable for 7.8% of RRONJ cases.4 Predisposing factors for the development of BRONJ are the type and dose of bisphosphonates and history of trauma, dental surgery or dental infection.1–3 Bisphosphonates cause marked suppression of bone metabolism. Trauma induced by the poor fitting dentures leads to chronic irritation and inflammation to the gingiva and underlying alveolar bone and may progress to osteonecrosis.1–4 Maxillary sinusitis and oro-antral fistulae are associated with BRONJ in approximately 44% of cases.5

Currently, there is no accepted treatment for this condition. Transient deferral of bisphosphonates offers no short-term benefits, hyperbaric oxygen has no proven efficiency, intermittent or continuous antibiotic with surgical debridement can be useful in selected cases.3 However, prophylactic actions are endorsed: a careful history of recent dental procedure should be elicited before administering bisphosphonates. Patients on bisphosphonates should be subjected to thorough oral cavity examination on routine follow-up.1–3

References