

Osteoradionecrosis of the mandible.

Teng MS, Futran ND.

Department of Otolaryngology, Head and Neck Surgery, University of Washington, 1959 NE Pacific Street, Seattle, WA 98195, USA.

Abstract

PURPOSE OF REVIEW: Osteoradionecrosis of the mandible is a serious complication of radiation therapy to the head and neck. Given the increased use of radiation therapy and combined chemotherapy-radiation therapy regimens in treatment of head and neck malignancies, it is anticipated that osteoradionecrosis will continue to be an important clinical problem. Recently, new concepts have been introduced regarding the pathogenesis of osteoradionecrosis, and these ideas help outline new guidelines for treatment.

RECENT FINDINGS: Current literature focuses on the probability of a fibroatrophic mechanism for the development of osteoradionecrosis, rather than the traditional vascular insufficiency mechanism. Because of the evolution of this new idea, as well as a double-blinded, placebo-controlled study finding no benefit from the use of hyperbaric oxygen for advanced osteoradionecrosis of the mandible, new treatment considerations have emerged. Ongoing research is also being conducted to clarify the role of osteoclasts in the pathogenesis of osteoradionecrosis. Restoration of blood supply or vascularized tissue to the affected area continues to be of primary importance in the resolution of osteoradionecrosis.

SUMMARY: It is clear that the cause and pathogenesis of osteoradionecrosis are far more complex than originally believed. Current and future research on this multifaceted topic will focus on the cellular basis of this condition, because as it is elucidated, more effective medical treatment regimens will become evident.

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