



MEDICATION-RELATED OSTEONECROSIS OF THE JAW

BEYOND BONJ

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COST \$50 | 1 HOUR

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Medication-related osteonecrosis of the jaw (MRONJ) can be difficult to treat and causes significant morbidity, but is largely preventable. Originally termed BONJ given the number of cases associated with bisphosphonate use, it is more commonly recognized as MRONJ today since the pathophysiology is due to two pharmacological classes of medications: antiresorptive (including bisphosphonates and receptor activator of nuclear factor kappa-B ligand inhibitors) and antiangiogenic drugs. Newly published guidelines strongly recommend dental assessment and necessary remedial treatment before such drugs are commenced.

MRONJ pathophysiology is still not completely elucidated. There are several suggested hypothesis that could explain its unique localization to the jaws: inflammation or infection, microtrauma, altered bone remodeling or over-suppression of bone resorption, angiogenesis inhibition, bisphosphonate toxicity, peculiar biofilm of the oral cavity, terminal vascularization of the mandible, suppression of immunity, or Vitamin D deficiency. Dental screening and adequate treatment are fundamental to reduce the risk of osteonecrosis in patients under antiresorptive or antiangiogenic therapy, or before initiating the administration.

The treatment of MRONJ is generally difficult and the optimal therapy strategy is still to be established. For this reason, prevention is even more important. It is suggested that a multidisciplinary team approach including a dentist, an oncologist, and a maxillofacial surgeon to evaluate and decide the best therapy for the patient. The choice between a conservative treatment and surgery is not easy, and it should be made on a case by case basis. However, the initial approach should be as conservative as possible. The most important goals of treatment for patients with established MRONJ are primarily the control of infection, bone necrosis progression, and pain. The aim of this program is to present the current knowledge about MRONJ, its preventive measures and management strategies.

LEARNING OBJECTIVES

- Describe the risk factors for osteoporosis to include the normal bone remodeling process
- Explain the mechanisms of action of the bisphosphonates which may account for their association with ONJ
- Discuss preventative measures in management of suspected ONJ patients
- Identify commonly used medications associated with causing MRONJ
- Discuss current treatment strategies to include an individualized, yet multimodal and evidence-based approach to success in managing these patients

CLINICIAN



MARK DONALDSON, BSP, RPH, ACPR, PHARMD, FASHP, FACHE received his baccalaureate degree from the University of British Columbia and his Doctorate in Clinical Pharmacy from the University of Washington. He completed a residency at Vancouver General Hospital, and has practiced as a clinical pharmacy specialist, clinical coordinator and director of pharmacy services at many healthcare organizations in both Canada and the United States. He is currently the Associate Principal of Clinical Pharmacy for Vizient's Advisory Solutions, and lives in Whitefish, Montana. Dr. Donaldson is a Clinical Professor in the Department of Pharmacy at the University of Montana in Missoula, Clinical Associate Professor in the School of Dentistry at the Oregon Health & Sciences University in Portland, Oregon, and affiliate faculty in the School of Dentistry at UBC. He has a special interest in dental pharmacology and has lectured internationally to both dental and medical practitioners. He has spent the last 25 years focusing on dental pharmacology and dental therapeutics, and is a leader in the field. Dr. Donaldson has published numerous peer-reviewed works and textbook chapters. He currently serves on the Editorial Board for the Journal Healthcare Executive and the Journal of the American Dental Association, and is a reviewer for over ten other different journals. He is board certified in healthcare management and is the Past-President and current Regent of the American College of Healthcare Executives' Montana Chapter. Dr. Donaldson was named as the 2014 recipient of the Bowl of Hygieia for the state of Montana and is the 2016 recipient of the Dr. Thaddeus V. Weclaw Award. This award is conferred by the Academy of General Dentistry upon an individual who has made outstanding contributions to the medical, dental and pharmacy literature. In 2019, Dr. Donaldson was conferred by the Canadian Dental Association (CDA) in Ottawa with the, "Special Friend of Canadian Dentistry Award." This award is given to an individual outside of the dental profession in appreciation for exemplary support or service to Canadian dentistry and/or to the profession as a whole.

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