Dentist PRACTICE MANAGEMENT Bulletin
December 19, 2017 ISSUE NUMBER 17

MEDICATION RELATED OSTEONECROSIS - A NEW CLINICAL REALITY

Written by:
Paul Sauchelli, DMD, JD
DentistCare
Practice Management
Consultant

There is a connection between bisphosphonates (an antiresorptive preparation) and a serious bone disorder called osteonecrosis of the jaw (ONJ) or bisphosphonate-related osteonecrosis of the jaw (BRONJ). A seminal review of 63 cases in the *Journal of Oral and Maxillofacial Surgeons*[1] prompted the U.S. Food and Drug Administration (FDA) and the manufacturer of Fosamax® to issue a warning to healthcare professionals on September 24, 2004.

Bisphosphonates continue to be quite common in the United States, with many Americans taking oral and intravenous forms of the medication. They are most commonly prescribed for osteoporosis, certain cancers, multiple myeloma, hypercalcemia, osteogenesis imperfecta, and Paget's disease. The majority of reported cases of ONJ have been in the class of patients taking the intravenous form of these medications. However, there is still a measurable risk in the patient population taking the oral form of this class of drugs.[2] We also should become familiar with a growing number of osteonecrosis cases affecting the maxilla and mandible, associated with other antiresorptive and antiangiogenic therapies.

The American Association of Oral and Maxillofacial Surgeons (AAOMS) issued an updated position paper in 2014. The authors caution that several new drugs pose the risk of ONJ when treating dental patients. Therefore, they recommend changing the nomenclature from BRONJ to **medication-related osteonecrosis of the jaw (MRONJ)**. The new name recognizes that the use of so-called antiangiogenic medications, both oral and IV in cancer therapy, also pose a risk of ONJ.

Patients are not often forthcoming with information about receiving these medications/therapies on a dental/medical health history form. They may not always be aware of the dental risk these medications pose. Ask them about any cancer treatment they have had and/or are currently undergoing before undertaking any invasive dental procedures. Include all bisphosphonate class medications and those cited in the above AAOMS position paper[3] on your medical history input form, and add them to your history-taking protocols. Also include queries regarding medical conditions that may give rise to use of these medications. If you have a reasonable suspicion a patient is taking these medications (oral, subcutaneous injection, or IV), request a medical consult from their treating physician before initiating invasive dental procedures.

Procedures that may expose the patient to a greater risk of ONJ include, but are not limited to:

1. Invasive dental surgery involving the bony structures of the jaw(s)
2. Implant fixture placement
3. Osseous surgery
4. Extractions
5. Ill-fitting removable prostheses causing chronic ulcerations and abrasion
6. Preprosthetic osseous surgery

Be vigilant for signs of ONJ, including exposed bone and associated severe pain, swelling, paresthesia, and infection. There may be a sudden onset of oral discomfort. Look for loose teeth, poor healing, areas of bony exposure, and possible associated drainage and sequestration following an invasive dental procedure.

If any of your patients exhibit any of the above signs or symptoms, contact their physician and/or an oral surgeon. Request a second opinion in a timely manner. Thoroughly examine the patient for signs of ONJ, and continue to closely monitor the patient.

Perform a thorough oral examination on patients about to undergo therapy with these medications. Include periodontal charting, radiographs, a deep cleaning, elimination of infection, and removal of all questionable teeth. From a risk management perspective, general dentists should refer patients, who have taken any of these classes of medications and need an invasive dental procedure, to an appropriate specialist.

If you must perform an invasive dental procedure, perhaps in an emergency on a patient who has, and/or is taking any of these medications, have a frank discussion with the patient. Discuss the possible untoward complications they may experience during the healing phase and memorialize this conversation in the dental record. **Documentation in the dental record is crucial.**

Follow up with the patient weekly, at least for the first four weeks, and then at least monthly until they are completely healed. Assess the need for antibiotic therapy if appropriate. Treat all patients—who are taking, about to take, or have taken any of these medications—with a high level of caution.

[1]Ruggiero SL, Mehrotra B, Rosenberg TJ, Engroff SL. Osteonecrosis of the jaws associated with the use of bisphosphonates: A review of 63 cases. J Oral Maxillofac Surg 2004;62:527-34 http://www.joms.org/article/S0278-2391(04)00195-8/fulltext accessed December 1, 2017.
[2]Cartsos, Vassiliki M. et al., Bisphosphonate Use and the Risk of Adverse Jaw Outcomes. The Journal of the American Dental Association, Volume 139, Issue 1, 23–30, http://jada.ada.org/article/S0002-8177(14)61406-9/fulltext accessed December 1, 2017.
[3]A list of the names of the commonly used antiresorptive and antiangiogenic preparations can be found on pages 16-17 (Appendices I and II) in Ruggiero SL, et al., Medication-Related Osteonecrosis of the Jaw—2014 Update, AAOMS Position Paper, https://www.aaoms.org/docs/govt_affairs/advocacy_white_papers/mronj_position_paper.pdf accessed December 1, 2017.