OSTEONECROSIS OF THE JAW (ONJ)

Charles (Chuck) Maack, Prostate Cancer Advocate/Activist

Disclaimer: Please recognize that I am not a Medical Doctor. I have been an avid student researching and studying prostate cancer as a survivor and continuing patient since 1992. I have dedicated my retirement years to continued research and study in order to serve as an advocate for prostate cancer awareness, and, from a activist patient's viewpoint, to help patients, caregivers, and others interested develop an understanding of prostate cancer, its treatment options, and the treatment of the side effects that often accompany treatment. Readers of this paper must understand that the comments or recommendations I make are not intended to be the procedure to blindly follow; rather, they are to be reviewed as my opinion, then used for further personal research, study, and subsequent discussion with the medical professional/physician providing prostate cancer care.

Oral hygiene that includes fluoride treatment and dental rinses are important to the prevention of osteonecrosis of the jaw (ONJ). Fluoride treatment as well as dental rinses that include 0.12% chlorhexidine gluconate could be beneficial both for prevention as well as therapy post ONJ diagnosis. Your 25-hydroxy Vitamin D level should be checked, since low level of this important vitamin (actually a hormone) appears to also be involved in this disease issue.

IF FOUND TO BE EXPERIENCING LOOSENING TEETH OR SOME SORENESS AROUND THE GUMS/JAW – OCCURRING AT TIMES FOLLOWING THE PRESCRIBING OF BISPHOSPHONATES OR DENOSUMAB AS XGEVA - COULD BE A SIGN OF MEDICINE-RELATED OSTEONECROSIS OF THE JAW/MRONJ DEVELOPMENT AND YOU SHOULD FIND A ORAL AND MAXILLOFACIAL SURGEON WHO IS MORE APT TO RECGONIZE AND HAVE EXPERIENCE IN THE TREATMEN OF ONJ. ALTERNATIVELY, A RHEUMATOLOGIST WITH EXPERIENCE TREATING MRONJ COULD BE VISITED. MOST DENTISTS OR PERIDONTISTS ARE NOT FAMILIAR WITH THIS RESULT OF BISPHOSPHONATE/DENOSUMAB USE.

An up-to-date paper regarding ONJ/MRONJ should be reviewed. See: http://tinyurl.com/os432er

One of our fellow prostate cancer patients provided the following very descriptive and IMPORTANT relating of his experience when ONJ was suspected….be sure to read this thoroughly for better awareness of what to do and what to expect:

"My dentist and periodontist could not diagnose the problem that I experienced starting February, 2014. I had been on Zometa until June, 2011, and got off Xgeva in August, 2013. They tried antibiotics and then two rounds of perio surgery. The four lower incisors would not firm up in the jaw bone. I asked the periodontist if it could be ONJ and he said no way. After one of the incisors fell out in August, he said maybe it could be ONJ and sent me to an oral and maxillofacil surgeon. He almost immediately diagnosed ONJ caused by bisphosphonate use, primarily Zometa. Since I had been off Zometa for three years, I was a little more than surprised! He then informed me that the half life of Zometa is about twelve years and any invasive dental or perio work can trigger ONJ,

Treatment involved beginning a fairly heavy dose of Amoxicilln, Pentoxifyilline, and Vitamin E. He performed surgery in August, 2014, removing the three remaining lower incisors and almost one half inch of dead bone between the two canine teeth that remained in solid bone. He proceeded removing bone until he found bone that would bleed. This was done with local anesthesia and after he had stitched it back together, he put in a partial plate I had to have made prior to surgery. The partial was to protect the surgical site and replace the four missing teeth. Recover was fairly quick and easy with

stitches removed after one week. The "new" teeth take a little getting used to but have had no issues since.

A couple of lessons learned. If you even suspect ONJ and have been on bisphosphonates, don't let a dentist or periodontist do any heavy duty work in your mouth. (Remember that stuff is still in your system for twelve years or so.) Find an oral maxillofacil surgeon who has had experience with ONJ, specifically medicinal (bisphosphonate) related ONJ. I found mine in Charlotte NC but he said the doctors that treat ONJ are few and far between. The other lesson learned is that Medicare would not cover the removal of the teeth or the cost of the partial. Common sense says you cannot remove dead jaw bone and keep the teeth in place. The partial they thought of as a cosmetic device so I wouldn't be gap toothed!"

Antibiotics post-ONJ diagnosis might help. If you are taking calcium supplements, circadian rhythm is an important consideration in reducing bone resorption. Reports in this regard indicate that calcium should be taken in the evening for increased effectiveness.

Along with bisphosphonates or the medication denosumab considered culprits to medicine-related osteonecrosis of the jaw, most cases of bone necrosis secondary to bisphosphonate/denosumab therapy occur in the jaw, where oral bacteria have access to bone (for example, through saliva), especially after exposure of bone following a dental procedure such as an extraction (the most common dental procedure associated with ONJ). So, there are other events that can bring about ONJ.

Though a tough call for oncologists concerned about ONJ, the use of bisphosphonates or denosumab for treating cancer patients to slow the growth of bone metastases is a situation where the benefit has to be considered vis-a-vis the risk.

As Medical Oncologist Stephen Strum reported in an email some years ago, another concern that is not paid sufficient attention during bisphosphonate (and now denosumab) treatment by oncologists is that this therapy results in a drop in serum calcium and if the patient has not been instructed to be using a comprehensive bone supplement, then hypocalcemia can occur with reflex increase in PTH (Parathyroid hormone or Parathormone). Increased PTH can be measured by a blood test called iPTH or intact parathormone. PTH stimulation is not good for any patient with malignancy since PTH has been implicated as a causative factor for increased cancer growth in PC.

With diagnosis of MRONJ, you should discuss with your Medical Oncologist cessation of bisphosphonate or denosumab therapy. It is important to no longer add to a development that has already occurred from the use of a bisphosphonate or denosumab, and cessation may permit jaw or facial bone surgery if this becomes necessary.

Hopeful treatment: Following from http://tinyurl.com/k3mw8rq

"**HOW IS ONJ TREATED?**
Most patients with osteoporosis who develop ONJ are treated conservatively with rinses, antibiotics and oral analgesics. In the IV trial in osteoporosis mentioned above, both cases resolved within months on such conservative treatment. There are case reports of the use of teriparatide in management of ONJ."

Regarding treatment with teriparatide for ONJ:
http://www.ncbi.nlm.nih.gov/pubmed/23371327

Another paper reported that with clindamycin and chlorhexidine gluconate rinses for 3 months the patient's jaw had returned to normal.

Hyperbaric Oxygen Treatment/HBOT was administered in a study that provided some amount of healing and it appears a noted help of this treatment was pain relief thus at least some improvement in quality of life. See:
http://www.ncbi.nlm.nih.gov/pubmed/22698292 .

Another paper in 2007 reports: In a small group of patients with BP-ONJ, adjunctive HBO2 therapy with a goal of 40 sessions led to remission or improvement in 62.5% of patients. Benefits from HBO2 therapy also have been reported in patients treated at other institutions;17-19 however, our findings

suggest that cessation of further BP administration is necessary to achieve remission. See: http://tinyurl.com/mhjd6h8

I HAVE AN ADDITIONAL REPORT FROM THE SAME PATIENT'S REPORT ABOVE FOR WHOM SURGERY WAS PERFORMED SUCCESSFULLY. THESE ARE HIS WORDS REGARDING HIS SURGERY AND THE PHYSICIAN WHO PERFORMED THE SURGERY ,

Richard H. Haug, DDS
Carolinas Center for Oral Health
1601 Abbey Place, Suite 220
Charlotte, NC 28209
704 512-2110
www.carolinasoralhealth.org

"Chuck - The surgery for ONJ was very successful. Dr Haug released me Friday and I am to return only as needed and if I am to undergo any dental procedure. That includes cleaning the teeth with specific instructions that the technician is not to go below the gum line. I have not experienced any swelling or pain since having the surgery September 25.

I had my original appointment with Dr Haug on August 29 at which time he started me on amoxicillin, pentoxifylline, and vitamin E to be taken for three months. He also had me go to my family dentist to be fitted for a partial that would have the 4 lower incisors and to be available the day of surgery. He gave me an extensive lesson on ONJ and the role of Zometa in its presence.

Surgery was begun after he had thoroughly deadened the lower jaw. One of the four incisors had fallen out previously and he removed the other three. He then removed the dead bone and went approximately half an inch deep until he uncovered bleeding marrow. He had stated previously that cutting until blood flows is the best way to insure all necrotic bone is removed. All was sent for pathology report which came back negative. The partial was inserted immediately to cover and protect the sutures. A little percocet for a couple of days and I was good to go. The remaining teeth in my lower jaw, and upper for that matter, are solidly in place. We feel the surgery and drugs, which I am now off of, have the ONJ under control.

I have learned much from Dr Haug and your papers about ONJ and have alerted my medical oncologist about the long term effects I have experienced with

Zometa. I would not care to go through the procedure a second time so we hope all is currently well. The article that started this discussion is a word of warning to all. Thanks"

Thus, it is extremely important the extractions of teeth, when having been prescribed the medications identified above, be performed by a Maxillofacial Surgeon since great care and expertise is necessary to enhance the subsequent healing process of both the gum and jawbone. If the extraction was performed by a Family or other Dentist and the gum area of the extraction is not healing or has become infected, and/or if the jawbone shows deterioration, one should immediately contact or be referred to a Maxillofacial surgeon for further treatment.

The identifying of such specialists is an ongoing search by me, and I would appreciate being made aware with contact name, address, website, email address, telephone number of any such specialists. My email: maack1@cox.net.

In addition to Dr. Haug identified above, with a patient in Israel also suffering from the experience, I recommended the following be contacted in that country:
Oral and Maxillofacial Surgery - Hadassah Medical Center
www.hadassah-med.com › ... › Departments › Oral and Maxillofaci...

Department of Oral and **Maxillofacial Surgery** Hadassah Medical Center - dental implants, sinus lift, bone grafting gums, jaw cyst ... Medical School in **Israel**.

Oral and Maxillofacial Surgery - Beth Israel Deaconess ...
www.bidmc.org/.../**Surgery**/Oral-**Su**...

Beth Israel Deaconess Medical Center
The Division of Oral and **Maxillofacial Surgery** diagnoses and treats facial deformities, TMJ pain, sleep apnea and snoring, diseases of the oral cavity, dental ...
The Israeli Association of Oral and Maxillofacial Surgery ...
www.dsa.co.il/en/?page_id=485

MSBI/Jacobi/AECOM Residency Training Program in Oral and **Maxillofacial Surgery**.**Maxillofacial Surgery** Residency Program. Beth **Israel** Medical Center, ...
about | refael zeltser
prof-zeltser.com/about-2/

So, readers, should you be aware of other Maxillofacial surgeons with specific expertise in treating the side effects of ONJ, PLEASE send me their name, address, telephone number, website, and email address if available. You will be providing an important service to those unfortunate patients experiencing these debilitating side effects.