BISPHOSPHONATES & DENTAL CONSIDERATIONS

by Charles (Chuck) Maack – Prostate Cancer Advocate
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The below is information I have compiled and saved to my files regarding the use of bisphosphonates when treating osteopenia and osteoporosis.

To anyone expecting to be prescribed bisphosphonates as a treatment for osteopenia or osteoporosis, the information below is important for the patient to review and fully discuss with both his physician prescribing the treatment and with his dentist prior to any administration of a bisphosphonate. The physician and dentist should be aware of each other in the event any dental work may become required once being treated with bisphosphonates..

First, here is information regarding dosage of the bisphosphonate:

If being prescribed Fosamax (Alendronate), a less strong bisphosphonate in tablet form, the medication as 70mg tablets usually comes as four tablets in a folded packet to last four weeks. One tablet is taken per week, taken on the same day of every week, preferably taken immediately upon rising for the day while stomach is empty, taken with 6-8 oz. of water to thoroughly wash the tablet down, and no other meds or food are to be taken for at least 30 minutes. You must remain up and out of bed and active after taking this medication. I made up a sign with the large letters FOSAMAX on it that I place somewhere near my bed that cannot help but catch my eye upon rising so that I will remember to take the pill immediately upon rising. And I take mine every Sunday morning.

If a stronger, intravenous bisphosphonate is prescribed such as Zometa (Zoledronate) or Aredia (Pamidronate), "insist" the initial dose be administered at a lowest dose possible and be administered over a longer than "usual" time frame to permit your system to tolerate the medication and minimize the chance of Acute Phase Response (APR) before increasing to what is considered a "normal" dose. Many Medical Oncologists use the argument "I've never heard of any of my patients experiencing any side effects." I seriously do not believe that to be fact, unless patients just fail to bring these side effects to the attention of their physician once they are over them. I've heard of way too many men who, within the next 28 to 36 hours after administration certainly did experience extremely uncomfortable side effects of flu-like symptoms, bone pain, kidney damage, and becoming bed-ridden for a few days after administration of intravenous bisphosphonates at full strength. The "normal" dose can be administered when returning for your second treatment. For Zometa, the initial dose to 'insist" on is 1mg over at least 30 minutes. Your second and future dosage can be increased to what is considered "normal" - usually 4mg. For Aredia, the initial dose to "insist" on is 30mg over at least 1 1/2 hours. Your second and future dosage can be increased to what is considered "normal" which I believe is 60-90mg every two weeks thereafter. In the administration of either Zometa or Aredia at full dosage you have every right to "insist" that the infusion be timed to more than 30 minutes for Zometa and at least 1 1/2 to even 2 hours for Aredia. They may try to push the infusion to a shorter time period but stick to your "rights" and

remind them that this is YOUR body in which the medication is being administered and you want as little side effect as possible.

I thought the below advisory from Dr. Strum to certain friends may interest you. Additionally, here is an extensive explanation of the effects of prostate cancer and treatment with androgen deprivation medications that are known to precipitate bone issues:

http://www.prostate-cancer.org/education/boneintg/Strum_BoneIntegrityNatlHist.html

From: Stephen Strum

This is a group email. Its goal is to alert you to issues that relate to the potential for a serious side effect of bisphosphonate use in those having invasive dental work.

I believe I have one of the largest experiences with the use of bisphosphonates, both intravenous & oral. I have not seen the side effect called "avascular necrosis" or "osteonecrosis of the jaw". Others have seen this & the reported incidence has been reported as between 1% & 5%. You will see in the attached file that some say that in those having dental extractions or dental implants this can be as high as 80%.

I suggest you read the attached file. If you wish more information do a Google search on bisphosphonates osteonecrosis or bisphosphonates avascular necrosis. I hope to soon have a website where these articles will be posted.

In the meantime, pay attention to the need for a DENTAL EVALUATION prior to starting on bisphosphonate therapy (especially intravenous bisphosphonates like Zometa or Aredia) & strongly consider dental evaluations while on such therapy. Share the attached file with your dentist & any other pertinent medical reference(s). Avoid invasive dental procedures such as extractions or implants. If there is an issue challenging this, seek an oral surgeon or contact one of the authors specializing in avascular necrosis of the jaw relating to bisphosphonate therapy.

Lastly, I believe it is possible that I have not seen this problem because I advise my patients to use a comprehensive bone supplement such as Bone Up by Jarrow or Bone Assure or Bone Restore by Life Extension. In the past, issues of bone brittleness relating to therapies using Fluoride or Bisphosphonates have come up. In both situations, I have found that such a problem relates to NOT supplying the patient with the needed raw materials to make healthy bone. And, one other point. This process is called avascular necrosis & drugs which inhibit angiogenesis might be working with bisphosphonates to create SYNERGISTIC TOXICITY. It is known that part of the mechanism of action of bisphosphonates is that of anti-angiogenesis. Therefore, think carefully when adding additional anti-angiogenesis agents to bisphosphonate therapy. This includes drugs like

thalidomide, tetracyclines, and COX II inhibitors like Celebrex. These may be found to be risk factors.

"The Doctor of the Future will give no medicine, but will interest his patients in the care of the Human frame, in diet, and in the cause and prevention of disease."

--Thomas Edison

"He is a better physician that keeps diseases off us, than he that cures them…prevention is so much better than healing because it saves the labour of being sick."

Thomas Adams, 1618

The superior doctor prevents sickness;
The mediocre doctor attends to impending sickness;
The inferior doctor treats actual sickness.

--Chinese Proverb

He who cures a disease may be the skillfullest, but he that prevents it is the safest physician

--T. Fuller

My regards to all,

Stephen

Stephen B. Strum MD, FACP
Medical Oncologist Specializing in Prostate Cancer

(Attachment to the above):

RECOMMENDATIONS TO PREVENT BISPHOSPHONATE AVASCULAR NECROSIS

Before Initiating Bisphosphonate Therapy

As soon as the treating oncologist prescribes bisphosphonate therapy, the patient should be referred to an experienced dentist or oral and maxillofacial surgeon for an urgent examination. Close and ongoing communication between the 2 is crucial, and commencement of bisphosphonate therapy should be deferred until dental and oral surgical treatments have been completed. **At the minimum, the dental examination should consist of clinical and panoramic radiographic examinations with individual periapical films where indicated. Dental treatment is aimed at eliminating infections and preventing the need for invasive dental procedures in the near and intermediate future.** This may include tooth removal, periodontal surgery, root canal treatment, caries control, dental restorations, and dentures. These

patients should not be considered as candidates for dental implants, which have no crevicular epithelial attachment and therefore would predispose the patients in this group to bone exposure (Fig 8). **Impacted teeth that are completely covered by bone or soft tissue should be left undisturbed, but those with an oral communication are recommended to be removed and given a 1 month healing period.** Similarly, small lingual mandibular tori do not require removal whereas large, multilobed mandibular tori or midline palatal tori with thin overlying mucosa are recommended to be removed 1 month before the initiation of bisphosphonate therapy. **Prophylactic antibiotic coverage for noninvasive dental care is not required but is recommended for any invasive dental procedure**, and for this penicillin remains the drug of choice. **For individuals with a penicillin allergy, combination therapy using quinolones and metronidazole or erythromycin and metronidazole are good second choices and have proven efficacy in this group. Clindamycin alone is not recommended because of its lack of activity against actinomyces, Eikenella corrodens, and similar species that have been found to frequently colonize this exposed bone.** As a general rule, if the patient requires only noninvasive dental care, such as dental cleanings (prophylaxis), fluoride carriers, dental restorations, dentures, and so forth, bisphosphonate therapy need not be delayed. If the patient requires invasive dental procedures such as **tooth removals, periodontal surgery, or root canal therapy, commencement of bisphosphonate therapy should be deferred for 1 month to allow sufficient time for bone recovery and healing.** Once the regimen of bisphosphonate therapy has begun, **a surveillance schedule of once every 4 months is recommended.**

WHILE RECEIVING BISPHOSPHONATE THERAPY Oncologists should consider referring all patients already receiving IV bisphosphonates to a dentist or oral and maxillofacial surgeon for an examination and a surveillance schedule. The dental team should carefully evaluate the **oral cavity for exposed bone in the areas most commonly affected, such as the posterior lingual area of the mandible, and for radiographic evidence of osteolysis, osteosclerosis, widened periodontal membrane spaces, and furcation involvements.** A dental cleaning and fluoride carriers should be considered, and **tooth removal should be avoided if at all possible. If the tooth is nonrestorable because of caries, root canal treatment and amputation of the crown is a better option than removing the tooth. Similarly, teeth that demonstrate 1 or 2 mobility should be splinted rather than removed.** If the mobility is 3 or more or is associated with a periodontal abscess, there is a strong possibility that osteonecrosis is already present and the abscess and/or granulation tissue is merely covering exposed bone. In these situations, removing the tooth and providing antibiotic treatment, as described in the previous section, is the only recourse. Elective surgery within the jaws, such as removal of third molar teeth or tori, periodontal surgery, or placement of dental implants, is strongly discouraged at this time. Denture wearing is acceptable, but the prosthesis should be examined for areas of excessive pressure or friction and given a soft reline if needed.

Bisphosphonate-Induced Exposed Bone

(Osteonecrosis/Osteopetrosis) of the Jaws: Risk Factors, Recognition, Prevention, and Treatment Robert E. Marx, DDS,* Yoh Sawatari, DDS, Michel Fortin, DMD, PhD, and Vishtasb Broumand, DMD, MD'

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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. **The comments or recommendations I make are not intended to be the procedure for you to now follow; rather, they are to be reviewed along with the comments or recommendations of others for your own further research, study, and discussion with the physician providing your prostate cancer care to come to your own, personal conclusion.**