

## Bisphosphonates and Dentistry

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Lately in Brazil and also I believe that in the world, we have confronted a growing number of patients who make use of bisphosphonates. These drugs are indicated in maintaining the patient's bone density with osteoporosis, being very common use in women over 50 years because of menopause and in certain malignancies (multiple myeloma, bone metastases secondary to breast tumors, lung or prostatic).

Sodium Alendronate is an example of this group of medicament and its use has long been associated with the occurrence of bone necrosis in the case of oral surgery.

This class of drugs, creates something like a film on the bone tissue to decrease the action of osteoclasts, with time of use, the bone remains stable, but also has less irrigation and less potential for response to possible infections, running a very high risk of necrosis.

Latest information about "Medication-Related Osteonecrosis of the Jaw" are present in a position paper of the American Association of Oral and Maxillofacial Surgeons, according to this review approximately 73% of necrotic cases occur in the jaw and 22.5% in the maxilla, but may also appear in both arcades in 4.5% of cases.

Other factors that may increase the incidence would be, in order of importance:

Cancer, which is the biggest factor for appearance, other immune suppressive diseases, dose, method of administration and time of use of the drug, which can be combined, Gender, and as already higher in women who are more likely to use medication, age, use of corticosteroids for treatment of chronic diseases, use of removable or full dentures and more recently the genetic factor, the latter comes from the latest reports linking the onset of osteonecrosis linked the drug in patients with SNP's or "Single -Nucleotide Polymorphisms", this genetic variation is linked to formation of collages, bone repair, and some metabolic bone diseases.

Important to remember that the disease is always invariably linked the infection also provided the region, periodontal or periradicular disease.

Treatment depends on the stage, which runs from 0-3, but before we have the "AT-RISK CATEGORY" that would be patients without apparent disease but who have used or are using "antiresorptive or antiangiogenic medications" for this group is recommended education about the disease and risks.

The Alendronate, with the most common commercial name is Fosamax, and one of the most prescribed drugs to women in the USA, the chance of developing the disease however is very low, but will increase according to the patient's relationship with the factors of risk.

The incidence of the disease can therefore range from 0% to 6.7%, this increased in patients with cancer. The biggest problem that we see clinically is that even after the suppression of the drug, the film formed by the medication will remain for a long time, especially if the route of administration has been injected, and there is still no consensus in the literature as to how long the Dentist surgeon can intervene

without the risk of necrosis, some studies speak in five years other in 10 years, so regardless of what number clinging are very large spaces of time without the patient can receive the most appropriate dental treatment for your case.

Common signs and symptoms according to the American Association of Endodontics are:

- a. An irregular mucosal ulceration with exposed bone in the mandible or maxilla persisting for longer than eight weeks
- b. Pain or swelling in the affected jaw without evidence of dental pathology
- c. Infection with or without purulence
- d. An altered sensation (numbness or heavy sensation)

The most commonly used drugs are in the table below, also provided by the American Association of Endodontics

Subclass of Bisphosphonate	Generic Name	Trade Name	Route of Administration	Potency Ratings
Aminobisphosphonate	Zoledronate	Zometa®, Reclast®	I.V.	10,000
Aminobisphosphonate	Pamidronate	Aredia®	Oral & I.V.	100
Aminobisphosphonate	Alendronate	Fosamax®	Oral	500
Aminobisphosphonate	Ibandronate	Boniva®	Oral & I.V.	1,000
Aminobisphosphonate	Risedronate	Actonel®	Oral	2,000
Nonaminobisphosphonate	Tiludronate	Skelid®	Oral	10
Nonaminobisphosphonate	Clodronate	Bonefos®, Loron®, Ostac®	Oral	10
Nonaminobisphosphonate	Etidronate	Didronel®	Oral	1 (potency relative to that of etidronate)

Another factor that was also recently published if it is a possible relationship between bisphosphonates and the development of invasive cervical resorption.

In an article *in press* Patel, S and Saberi, N in the Journal of Endodontics in 2015 the authors report three clinical cases where no predisposing factor for invasive resorption was present, except the use of bisphosphonates.

So it would be very interesting that we dental surgeons could alert our medical colleagues about the possible problems that would cause to their patients and the real need of using this type of measurement in such a large number of individuals. Do the likely deleterious effects of this medication in oral level justify the systemic gains for our patients?

### Quotes

Brazilian Forum of Endodontics

American Association of Oral and Maxillofacial Surgeons

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