Bisphosphonates and Dentistry

Fábio Henrique Monteiro Lozano

Associate Professor of Odontodiagnóstics and Integrated Clinic of the University Paulista UNIP, Brazil

*Corresponding Author: Fábio Henrique Monteiro Lozano, DDS, Msc, Associate Professor of Odontodiagnóstics and Integrated Clinic of the University Paulista UNIP, Brazil.

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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.

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

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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:
- An irregular mucosal ulceration with exposed bone in the mandible or maxilla persisting for longer than eight weeks
- Pain or swelling in the affected jaw without evidence of dental pathology
- Infection with on of purulence
- 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

<table>
<thead>
<tr>
<th>Subclass of Bisphosphonate</th>
<th>Generic Name</th>
<th>Trade Name</th>
<th>Route of Administration</th>
<th>Potency Ratings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aminobisphosphonate</td>
<td>Zoledronate</td>
<td>Zometa®, Reclast®</td>
<td>I.V.</td>
<td>10,000</td>
</tr>
<tr>
<td>Aminobisphosphonate</td>
<td>Pamidronate</td>
<td>Aredia®</td>
<td>Oral &amp; I.V.</td>
<td>100</td>
</tr>
<tr>
<td>Aminobisphosphonate</td>
<td>Alendronate</td>
<td>Fosamax®</td>
<td>Oral</td>
<td>500</td>
</tr>
<tr>
<td>Aminobisphosphonate</td>
<td>Ibandronate</td>
<td>Boniva®</td>
<td>Oral &amp; I.V.</td>
<td>1,000</td>
</tr>
<tr>
<td>Aminobisphosphonate</td>
<td>Risedronate</td>
<td>Actonel®</td>
<td>Oral</td>
<td>2,000</td>
</tr>
<tr>
<td>Nonaminobisphosphonate</td>
<td>Tildronate</td>
<td>Skelid®</td>
<td>Oral</td>
<td>10</td>
</tr>
<tr>
<td>Nonaminobisphosphonate</td>
<td>Clodronate</td>
<td>Bonefos®, Loron®, Osiac®</td>
<td>Oral</td>
<td>10</td>
</tr>
<tr>
<td>Nonaminobisphosphonate</td>
<td>Etidronate</td>
<td>Didronel®</td>
<td>Oral</td>
<td>1 (potency relative to that of etidronate)</td>
</tr>
</tbody>
</table>

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
American Association of Endodontics
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