

Bisphosphonates and Osteonecrosis of the Jaw

Bisphosphonate medications are widely used in the treatment of bone diseases including osteoporosis and Paget's disease and in some cancers. They are used in low oral doses to treat osteoporosis and to prevent fractures. They are used in high IV (intravenous)* doses in cancer to prevent complications when it spreads to bone.

In general, the side effects of bisphosphonates are minimal. Osteonecrosis of the jaw (ONJ) is a very rare side effect of bisphosphonates, however you should be aware of this rare but potentially serious association of bisphosphonate treatment and take appropriate measures to help prevent it.

What is osteonecrosis of the jaw?

Osteonecrosis means death of bone. Osteonecrosis of the jaw (ONJ) is defined as an area of exposed bone (not covered by gum) in the jaw region that does not heal within 8 weeks of identification. The exact cause of ONJ is currently unknown.

What is the risk of developing this complication?

The risk of developing bisphosphonate-associated ONJ ranges between 1/10,000 to 1/100,000 for patients taking oral bisphosphonates for treatment of osteoporosis or Paget's disease. The risk is much higher, ranging between 1% and 10%, for patients receiving high dose IV therapy for cancer.

What are the risk factors for bisphosphonate-associated ONJ?

- People suffering from cancer
- use of high-dose IV bisphosphonates
- longer duration of treatment with bisphosphonates
- glucocorticoid use (Prednisolone, Dexamethasone, etc.)
- alcohol and tobacco abuse
- Poor dental hygiene and those who undergo a dental procedure such as dental extraction
- Diabetes mellitus

What are the symptoms of ONJ?

- severe jaw pain
- numbness of the jaw
- swelling and infection of the jaw region

- loosening of teeth and exposed bone

These symptoms may occur spontaneously or more often, following tooth extraction. Not all patients have symptoms.

What should I do to minimize the risk of ONJ?

- Inform your dentist that you are taking bisphosphonates, especially if you plan to have a dental procedure
- Maintain good oral hygiene, attend regular dental visits and report any oral problems to your dentist.
- If you are taking bisphosphonates for cancer, you should have a dental evaluation prior to starting the medication and then every 6 to 12 months or as directed by your dentist.
- Discuss with your GP all possible side-effects

Can ONJ be treated?

There is no treatment for ONJ to date. Antibiotics may be useful as there is often some degree of infection complicating the picture. Stopping bisphosphonates may not alter the progression of the disease. You should therefore discuss with your doctor whether or not it is appropriate for you to cease bisphosphonates if this complication occurs.

What are the common bisphosphonates used in treatment of osteoporosis & cancer?

Alendronate (Fosamax, Fosamax plus, Alendro) and Risedronate (Actonel, Actonel Combi) are most often used for osteoporosis treatment in oral form. Pamidronate (Aredia, Pamisol) and Zoledronic Acid (Zometa) are given by IV doses in cancer.

Note; * Intravenous (IV) means that a medication is injected directly into the vein

www.osteoporosis.org.au

www.anzbms.org.au

Ref; Khosla S et al., 2007 ASBMR Task Force on Bisphosphonate-Associated ONJ. Journal of Bone and Mineral Research, 22 (10): 1479-89.

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