

BRONJ: THE RARE COMPLICATION OF PROLONGED USAGE OF BISPHOSPHONATE

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Introduction: Bisphosphonate are prescribed for prevention and treatment of osteoporosis since its introduction in Netherlands in 1996. Its act as bone resorption inhibitors in healthy individuals. It has been known for subtrochanteric pathological fractures with its prolonged use. However, there has been increased reports of Bisphosphonate Related Osteonecrosis of Jaw (BRONJ) in the last decade. This case presentation focuses on a 60-year-old woman with 10-years history of monthly bisphosphonate use for treatment of osteoporosis, resulting in BRONJ with a very unfavorable outcome.

Discussion: This patient was referred from Orthopaedic clinic to Dental clinic for evaluation of loose tooth. She had an extraction of right mandibular molar and noticed poor healing of socket without pain. Her past medical history was significant for severe osteoporosis, diagnosed in 2010 in which she was treated with monthly bisphosphonate.

Conclusion: As BRONJ is a fairly new entity in medical literature, its incidence is low at 0.01% -0.04% with oral bisphosphonates. BRONJ is thought to be caused by trauma to dentoalveolar structures that have a limited capacity for bone healing due to greater bone turnover in jaw and this explains why there are greater bisphosphonate deposition in the jaw versus extra gnathic sites. The mechanism of injury is different for atypical fracture secondary to prolonged use of bisphosphonate as it has been suggested that prolonged suppression of bone turnover under long term administration may impair ability of bone to remodel. This leads to accumulation of microdamage and compromised bone strength ultimately progressing to a stress fracture. Bisphosphonates are a crucial weapon in Orthopaedic armory. Therefore, we should stress the importance of obtaining comprehensive oral/dental examination, prophylaxis and treatment prior to starting bisphosphonate treatment in our clinic. The patient should also understand that maintaining a good oral/dental health is extremely important.