Treating Osteoporosis: Do Bisphosphonates Really Increase the Risk of Osteonecrosis of the Jaw?

Osteoporosis is a major public health problem. Osteoporotic fractures result in significant morbidity, increased mortality, and economic costs. Bisphosphonates are one of the most widely prescribed classes of drugs, with a potential role in improving fracture risk in a variety of clinical settings. However, there is increasing concern about the long-term safety of these drugs, particularly with respect to the association of bisphosphonates with osteonecrosis of the jaw (BONJ). The association of bisphosphonates with osteonecrosis of the jaw (BONJ) has raised concerns in the medical literature, and more recently in the public media, relating to the use of bisphosphonates for the treatment of osteoporosis. To date, no cases of BONJ have been reported. (with follow up as long as 10 years on some of these patients).

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Concerns have been raised in the medical literature, and more recently in the public media, relating to the association of bisphosphonates with osteonecrosis of the jaw (BONJ). Osteonecrosis of the jaw (ONJ) itself is not a new condition. However, the association of ONJ with bisphosphonates has been identified recently and is more recent times associated with chemotherapy and radiotherapy. A rare condition, the background incidence in the general population is unknown.

However until recently there has been no widely accepted definition of ONJ or BONJ, leading to diagnostic ambiguity and confusion in the literature. A working definition for BONJ has recently been proposed by the American Society for Bone and Mineral Research (ASBMR) as- an area of exposed bone in the mandibular or maxillary region that did not heal within 8 weeks after identification by a health care provider, in a patient who was receiving or had received a bisphosphonate and had not had radiation therapy to the craniofacial region. The differential diagnoses includes several disorders of the jaw and oral cavities which have a similar clinical presentation and include osteomyelitis, maxillary sinusitis, and trauma.

Since 2003 several hundred cases of BONJ have been reported in the medical literature, more than 95% of which involve patients treated with bisphosphonates for metastatic bone disease and hypercalcemia of malignancy. Such reports, while not irrelevant, are considered the weakest form of evidence in establishing a “cause and effect” relationship. The weight of evidence from randomized controlled trials, and large observational studies comparing the case reports and results of controlled clinical studies. This clinical trial, involving nearly 7000 women over 3 years, was designed to primarily evaluate the safety and efficacy of intravenous zoledronic acid as therapy for osteoporosis. It should be noted that most of the cases of BONJ in the medical literature have been attributed to this agent.

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As medical professionals our primary concern is our patients’ wellbeing, and thus we are constantly urged to take care in prescribing. It is incumbent upon societies and regulatory authorities to likewise take care when issuing warnings on prescribing information. In clinical practice, patients have started stopping bisphosphonate therapy or undergoing dental work. (contrary to what the American Dental Association guidelines recommend nor for stopping the agent for anyone undergoing dental work.

As an occupational history in order to make evidence based decisions on management and prevention of ONJ.

References

7. E Thompson C, Sheehy C, Barry M, Carey J. Department of Oral Medicine, Connolly Hospital, Galway 15 Department of Rheumatology, Merlin Park Hospital, Galway Email: john.carey@mh.ie


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