DENTO-ALVEOLAR SURGERY AND RISK OF OSTEONECROSIS OF THE JAWS DEVELOPMENT IN OSTEOPOROTIC PATIENTS TAKING ORAL BISPHOSPHONATES: UTILITY AND RELIABILITY OF PRE-OPERATIVE CTX SERUM TEST IN RISK PREDICTION


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Bisphosphonates are often administered orally to treat osteoporosis. Patients with osteoporosis have an estimated risk to develop osteonecrosis of the jaws (ONJ) ranging between 0.01% and 0.04%; rising to 0.09%-0.34% in case of dental extractions. Indeed, dento-alveolar surgery has been identified as the putative cause of ONJ onset, with tooth extractions responsible of 37.8% of cases, periodontal and endodontic surgery of 12% and implants interventions of 3.4% of cases (Marx, 2002). The American Society of Bone Mineral Research Task Force on osteonecrosis of the jaws has proposed, as a pre-operative indicator of osteonecrosis development risk, the cross linked C-terminal telopeptide (CTX), a bone turnover marker, which acquaints with bone resorption degree through the extent of bone renewal. Upon several studies, Marx et al. (2007) highlighted that CTX values greater than or equal 0.299ng/ml are associated with none or minimal risk of ONJ, values ranging from 0.101 and 0.149 ng/ml are associated with an intermediate risk of ONJ, while values equal or lower than 0.100ng/ml were associated with a high risk of ONJ onset.

This study investigates the association between pre-operative cross linked C-terminal telopeptide serum test and surgical risk of osteonecrosis in osteoporotic patients taking oral bisphosphonates, through a review of the literature and our clinical experience.