

THE ROLE OF HIGH-DOSE VITAMIN D IN RISK REDUCTION OF OSTEONECROSIS OF THE JAW IN CANCER PATIENTS RECEIVING ZOLEDRONIC ACID.

Abstract

Bisphosphonates are drugs that inhibit bone resorption mainly conditioning osteoclast activity; they are effective in the prevention of bone complications in patients with multiple myeloma and bone metastases from solid tumors. Among the side effects associated with the use of bisphosphonates, particularly those containing an amino group (NBPs), osteonecrosis of the jaw (bisphosphonate-related osteonecrosis of the jaws -BRONJ) in the oral cavity of cancer patients is known since 2003 (Marx RE, 2003). In a recent study of dynamic histomorphometry, the rate of bone remodeling in the jaw bones of patients with BRONJ has been compared to the rate of patients treated with NBP without signs of BRONJ. Deficit of bone mineralization has been demonstrated in patients with BRONJ. In particular, osteomalacia resulted an important additional risk factor for the development of BRONJ in patients onco-hematology taking NBP. Vitamin D deficiency is identified as the most common cause of osteomalacia in adults, more frequently in cancer patients. In Literature, there are evidences about extra-skeletal effects of vitamin D which support the role of vitamin D in the pathogenesis of BRONJ. Circulating levels of 25 (OH) D are strongly correlated with gingival health, dental care and the risk of developing periodontitis and gingivitis. The main objective of the study is to assess whether the implementation of high-dose vitamin D in patients treated with zoledronic acid effectively reduces the risk of BRONJ. The expected duration of the study is 3 years, in consideration of the fact that the probability of developing BRONJ increases significantly during the first 3 years of treatment.