

**Bisphosphonates and Atypical Femoral Fractures:  
Is the Location of the Fracture Associated with the Time of Consolidation?**

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**Purpose:** Bisphosphonates are drugs commonly prescribed to mitigate the effects of osteoporosis, a condition associated with an increased risk of fractures. However, despite their success, there has been growing concern over the long-term use of bisphosphonates, due to reports of increased risk of atypical subtrochanteric fractures of the femur (AFFs). The objective of this study is to describe our casuistry of patients with AFFs and evaluate the risk of evolving to a nonunion, the time of consolidation associated with the location of the fracture, the time of use of the drug, and the implant involved in the treatment of it.

**Methods:** A retrospective study was performed, and patients were collected between June 2008 and May 2018. We identified patients with AFFs according to the task force criteria and history of use of bisphosphonate. We included all the patients older than 65 years, with long-term use of bisphosphonates, criteria of AFFs according to the task force, and a follow-up of 12 months or longer. We studied the following variables: the time of use of bisphosphonates, localization of the fracture according to Hyodo et al, used implant, and fracture healing time, considering the presence of bone callus observed in 2 radiologic projections, that was measured in weeks.

**Results:** Between June 2008 and May 2018, 72 patients met the task force criteria for AFFs. A total of 67 patients were included. From this total, 37 of them were in the proximal region of the femur, and 31 corresponded to the diaphyseal region. The univariate and multivariate analyses showed statistical significance in the time of bone healing comparing the different locations of the fracture along the femur.

**Conclusion:** According to our study, the localization of AFFs in patients with a history of use of bisphosphonates influences the time of bone healing.