ATYPICAL FRACTURE SECONDARY TO PROLONGED BISPHOSPHONATE THERAPY

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Introduction: 74 year old Chinese lady with underlying osteoporosis and was on bisphosphonates for the past 3 years presented with pain over left forearm for past 2 months. No previous history of trauma however patient claim pain started while she was trying to get up to transfer to wheel chair one month ago. She was put on above elbow cast however after 2 months of immobilization with case did not show signs of fracture union.

Discussion: On examination of left upper limb non tender at fracture site. No obvious deformity seen over left forearm. Fracture site was mobile on examination and Xray showed hypertrophic non union proximal 1/3 left ulna. The patient was counselled for surgery and agreed for dynamic compression plate left ulna with iliac bone graft. Intraoperatively noted atypical fracture proximal 1/3 left ulna. Abundant fibrous tissue with sclerotic fracture ends. Non union at fracture site.

Conclusion: The mechanism of action of bisphosphonates involves inhibition of osteoclast activity and reduction in the size of resorption cavities that form, with a resulting increase in bone mineral density. Bisphosphonates may lead to oversuppression of bone turnover and impairment of bone healing. Bisphosphonates appears to be associated with poor healing of atypical fractures, including longer duration to complete union and higher incidence of non-union. Operative management of atypical fractures and prophylactic treatment of incomplete stress fractures may help reduce some of these risks.