

## **BILATERAL ATYPICAL FEMORAL FRACTURE SECONDARY TO LONG TERM USE OF INTRAVENOUS BISPHOSPHONATE TREATMENT IN METASTATIC BONE DISEASE - SEREMBAN EXPERIENCE.**

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**Introduction:** The mode of action of Bisphosphonates are by inhibiting osteoclast mediated bone resorption making them the ideal first line treatment[1] for their efficacy, cost effectiveness and drug safety. However, studies have shown the association of atypical femoral fractures with the long-term use of bisphosphonates and should be used judiciously after 5 years for oral bisphosphonate and 3 years of intravenous bisphosphonate treatment[2].

**Discussion:** A 70 year old female with past medical history of metastatic breast cancer underwent left mastectomy and adjuvant chemoradiotherapy since 2011. She was started on regular intravenous Zoledronic acid (ZOMETA) for the treatment of her metastatic bone disease and has been on such treatment for the last 10 years. She presented with right hip pain and reduced range of motion after a low energy fall. Radiological findings were typical of a complete right atypical femoral fracture and an incomplete atypical femoral fracture with “flaring” of left subtrochanteric region(Figure 1). Atypical changes include lateral cortical thickening, short oblique fracture with no comminution and medial spike[4]. We would like to highlight the importance of recognising such fractures and their treatment which includes the prophylactic treatment of the opposite limb. Patient underwent Cephalomedullary nailing of bilateral femurs using long proximal femoral nails to prevent future stress riser fractures.

**Conclusion:** Bisphosphonates have been successful in the treatment of metastatic bone disease[3] reducing the incidence of fractures as well as the morbidity and mortality related to them. The option of intravenous bisphosphonate such as intravenous Zoledronic acid have become the game changer due to its high efficacy, high compliance, cost effectiveness and most importantly safety index. This case highlights the importance of close monitoring and judicious use of such treatments in the long term treatment of metabolic bone diseases.