

## Use of Teriparatide in Atypical Fracture of the Femur

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### INTRODUCTION:

Bisphosphonate therapy suppresses bone loss and reduces fracture risks up to 50%. However, prolonged use of bisphosphonate (>5 years) is associated atypical femoral fracture (AFF) with an increased risk to about 100 per 100,000 patient-years.<sup>1</sup> Teriparatide was reported to be effective in promoting fracture healing although some disagreed.<sup>2</sup> We reported a patient with AFF in which intramedullary nail was performed and started on teriparatide post-surgery.

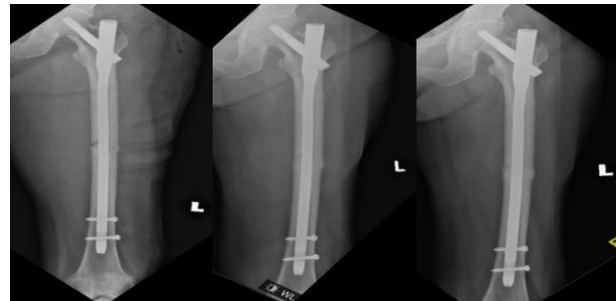
### REPORT:

A 77-year-old woman who was on bisphosphonate therapy for osteoporosis for more than 10 years, presented to us with a fall from standing position while walking in her garden. She also complained of left thigh pain for the past 6 months prior to the fall, especially when standing up from sitting position. X-ray showed atypical fracture of midshaft of left femur. In addition to that we also performed a right femur x-ray. Beaking of the lateral cortex of midshaft of right femur was detected (Figure 1).

Long intramedullary nail was performed over the left femur. A day after the surgery, she was started on teriparatide 20mcg daily along with calcium and vitamin D supplementation. She was allowed partial weight bearing with crutches upon discharge. At 3 months of follow-up, she was ambulating without aid into the clinic and there were radiographic signs of union of the femur (Figure 2). Teriparatide was discontinued after 3 months.



**Figure 1:** Beaking over midshaft femur (left) and atypical midshaft femur fracture (right).



**Figure 2:** AP femur X-rays (left to right), post operation, 6 weeks and 3 months follow-up.

### CONCLUSION:

In conclusion, union in AFF is achievable by combining intramedullary fixation supplemented with teriparatide administration.

### REFERENCES:

1. Silverman S, et al. Bisphosphonate-related atypical femoral fracture: Managing a rare but serious complication. *Cleveland Clinic Journal of Medicine*. 2018; 85:885-893.
2. Greenspan SL, et al. Teriparatide for treatment of patients with bisphosphonate-associated atypical fracture of the femur. *Osteoporos Int*, 2018;29(2):501-506.