

Red Flag Of Alendronate

Atypical Femoral Fracture Post Total Knee Arthroplasty: A Case Report

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INTRODUCTION:

Bisphosphonates is an anti-resorptive medication aimed to reduced fragility fractures but have been associated with atypical femoral fractures (AFFs). AFFs are stress fracture that commonly related with prolonged used of this medication. Prodromal symptoms including hip, groin, thigh and knee pain are present in most cases but usually misdiagnosed¹, which leads to an increase in the number of AFFs. We reported a case of misdiagnosed red flag signs in a patient on long-term Alendronate that leads to AFFs.

REPORT:

A 77-year-old woman presented following a trivial fall from a sitting height at home. Post fall, patient complaint of severe right hip pain and inability ambulating. Prior to this trauma, patient had been complaining of right hip pain during clinic appointment but only given analgesics. The patient had previously done right knee total arthroplasty (TKA) in 2014, started on Alendronate 70mg weekly after operation until 2017. Subsequently, restarted in 2023 based on bone mineral density (BMD) measurement until trauma date.

Xray revealed a transverse subtrochanteric fracture with cortical thickening of femoral diaphysis and a medial spike. Due to previous TKA implant, option was limited. Decision made for long proximal femur plate augmented with cable wire by minimally invasive plate osteosynthesis (MIPO) technique.

At three-month follow up, x-ray shows callus, and the patient ambulating with walking frame.



Figure 1: Trauma and 3 month follow up x-ray



Figure 2: Intraoperative MIPO technique

CONCLUSION:

Major features for AFFs defined by American Society for Bone and Mineral Research (ASBMR) Task Force, namely minimal trauma, subtrochanteric fracture, which is transverse, non-comminuted and have a medial cortical spike while minor features like history of bisphosphonate use, generalized cortical thickening were present in our case. Knowledge on its red flags are important for an early diagnosing and management.

REFERENCES:

1. Anderson PA, Kates SL, Watts NB. Update on Atypical Femoral Fractures. *J Bone Joint Surg Am.* 2024 Oct 2;106(19):1819-1828. doi: 10.2106/JBJS.23.01439. Epub 2024 Aug 22. PMID: 39172879.