

ATYPICAL FEMORAL FRACTURES AFTER LONG-TERM BISPHOSPHONATES THERAPY : CASE REPORT

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OBJECTIVES

Bisphosphonates are the most commonly prescribed type of medication for the treatment of osteoporosis. This treatment, however, is not without adverse effects.. Atypical femoral fractures (AFF) and osteonecrosis of the jaw have emerged as potential complications of bisphosphonate therapy

CASE PRESENTATION: HISTORY

- 1983 – total thyroidectomy for multinodular goiter (substitution treatment with LT4 100µg daily)
- 2002 – osteoporosis (BMD DXA T-score lumbar spine – 4,0; total hip – 2,1; left femur neck – 3,0
Treatment:Risedronicum acidum 35 mg/week + alfacalcidol 1µg/day + calcium 1g/day
- 2003 – 2013 treatment with risedronicum acidum, zoledronicum acidum and alendronicum acidum, with slight increase in bone mineral density
- 2013 – acidum ibandronicum Iv
- March 2015 BMD DXA T-score lumbar spine – 2.9
left femur neck – 2,4.
- September 2015 – atypical femoral fracture

CASE PRESENTATION

Female, 78 year old
Weight - 62kg, Height - 158 cm
No history of trauma, or associated with low-energy trauma, admitted to our clinic after three weeks of a left femoral fracture threated in Orthopedic Clinic



Transverse fracture configurations, absence of comminution, a medial spike, localized periosteal thickening of the lateral cortex and generalized thickening of the femoral cortices



Postoperative X-ray after surgical fixation

New treatment:
Strontium ranelate 2 mg/day
Alfacalcidol 1 mcg/day
calcium 1000 mg/day

Postoperative X-ray after 3 month



DISCUSSION

The patient was in treatment with bisphosphonates over 10 years. An association between bisphosphonate long-term use and the occurrence of AFF has been suggested. This diagnostic has been supported and by the x-ray.

2013 revised case definition of AFF. Major features (ASBMR Task Force)

- The fracture is associated with minimal or no trauma, as in a fall from a standing height or less ;
- The fracture line originates at the lateral cortex and is substantially transverse in its orientation, although it may become oblique as it progresses medially across the femur ;
- Complete fractures extend through both cortices and may be associated with a medial spike; incomplete fractures involve only the lateral cortex ;
- The fracture is non-comminuted or minimally comminuted ;
- Localized periosteal or endosteal thickening of the lateral cortex is present at the fracture site ("beaking" or "flaring") .

CONCLUSIONS

The causal relationship between prolonged bisphosphonate use and the occurrence of AFF has not yet been established. For our patient and the patient at high risk of fracture, it may be beneficial to continue bisphosphonate treatment beyond five years. For most people with osteoporosis, the proven fragility-fracture risk-reduction benefits of bisphosphonates outweigh the risks of AFF.