



## Service Priorities and Programmes Electronic Presentations

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**Submitting author:** Dr Yun Ning, Elaine Cheung

**Post title:** Senior Medical Officer, United Christian Hospital, NULL

### **Incidence of Bisphosphonates related Atypical Femoral Fractures and Osteonecrosis of Jaw**

*Cheung EYN, Kam GYW, Yau JCY, Ho CW, Hung CS, Ng I, Tsang MW, Ng PW(1), Hsu A, Chan CW(2)*

*Departments of (1)Medicine & Geriatrics, (2)Orthopedic and Traumatology, United Christian Hospital*

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#### **Introduction**

Bisphosphonates (BPs) and Denosumab can reduce the risk of fractures. However, atypical femoral fractures (AFFs) and osteonecrosis of jaw (ONJ) have been reported in patients taking these 2 drugs. Apart from Teriparatide, no other treatments have been shown to enhance fracture healing in AFFs. In addition, Teriparatide is probably the best option for treatment of osteoporosis in patients with ONJ related to BPs use.

#### **Objectives**

We retrospectively studied the incidence of AFF in the year 2015 as well as the total number of patients with AFF during 2012-2015 and ONJ during 2010-2015.

#### **Methodology**

Using CDARS, all cases of fracture femur as well as 3 subgroups of fracture femur (subtrochanteric, femoral shaft, and pathological femoral fractures) and ONJ presented to UCH in 2015 were evaluated. There is no ICD coding for AFF and 'pathological femoral fractures' was sometimes used for coding of AFF. Among these cases, those with prior use of BPs were identified. In addition, all cases of BPs related AFF sustained during 2012-2014 and all cases of ONJ during 2010-2015 were also reviewed.

#### **Result**

Subtrochanteric (n=24), femoral shaft (n=22) and pathological femur fractures (n=31) contributed to 2.96%, 2.71% and 3.82% respectively of all cases of fracture femur (n=812) sustained in patients over 50 years old. Of these 77 patients, 7 had prior use of Alendronate from 1 to 10 years. 1 had prior use of Zolendronate once for prostatic cancer with bone metastases and this subject was excluded. All the other subjects received BPs for osteoporosis. 5 additional cases of BPs related AFF sustained during 2012-2015 were identified. X-Rays of all these 12 subjects were reviewed

and they all satisfied the ASBMR 2013 criteria for diagnosis of AFF. 4 out of these 12 patients with AFF were prescribed Teriparatide as self-financed item but 2 of them discontinued Teriparatide due to financial reason. Among the 36 cases of ONJ presented during 2010-2015, 11 (30.6%) had prior use of BPs from 4 months to 8 years. All except 2 of these 11 subjects received BPs for osteoporosis. None were given Teriparatide because of financial reasons. Conclusions (1) The incidence of BPs related AFF and ONJ are low. (2) The Drug Advisory Committee should consider approving Teriparatide (for 2 years) to this small specific group of osteoporotic patients who develop these 2 rare complications.