THU0483

BONE MINERAL DENSITY AND PREVALENCE OF OSTEOPOROSIS IN HIV-INFECTED PATIENTS IN COMPARISON WITH A REFERENCE SPANISH POPULATION: THE IMPORTANCE OF LOCAL NORMATIVE RANGES

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Background: HIV-infected patients have less bone mineral density (BMD) than non-HIV population. According to current guidelines, the normal BMD reference range is that derived from the US NHANES III (National Health and Nutrition Examination Survey) and from BMDCS-Hologic. However, local variations of BMD could change the interpretation of bone loss and the prevalence of osteoporosis (OP) in this population.

Objectives: To compare the BMD in HIVinfected Spanish patients with values from healthy Spanish population and to estimate the prevalence of OP in this patients, based on the local data.

Methods: This was a cross-sectional study in a homogenous cohort of HIV-infected patients (RyC cohort, EC 009/17). Data of femoral neck and spine BMD were obtained by DXA (Dual-Energy X-ray Absorptiometry) from 949 patients (241 women, 25%) and compared with the results of a nationally representative Spanish cohort (14 centres) including 2442 subjects (1305 women, 53%) aged 20–80 years.

Results: Overall, mean age was 45.4 years (women, 46.5 years). The Spanish reference cohort showed a reduced BMD (–7%, 3%–12%) in comparison with NHANES, especially in middle aged women. HIVinfected patients had a lower BMD than Spanish cohort in both spine and femoral neck localizations for the different age strata ($p<0.001$), not significant in femoral neck for males aged 30–39 ($n=152$ patients, 0.848 vs 0.869 gr/cm²; $p=0.07$). Using NHANES data, the prevalence of OP was 26% in women in the Spanish cohort and 41% in our HIV population. By contrast, if the Spanish data are used as normative range, the prevalence of OP decreased in HIV females, significant between 40–60 years (from 26.5% to 23.5% in spine, $p<0.01$). Although OP in spine was less frequent in males by using Spanish data ($p<0.01$, OP decrease from 17.8% to 6.5%), there was more OP in femoral neck in males older than 40 years (from 13.5% to 21% in 60–69; $p<0.01$).

Conclusions: Our data demonstrate that HIV-infected patients had a significantly reduced BMD in comparison with both US and Spanish reference data for all the age strata. However, the prevalence of osteoporosis could change if local representative cohorts are used as normative data, with almost 30% of patients being reclassified.

Disclosure of Interest: None declared

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REBOUND-ASSOCIATED MULTIPLE VERTEBRAL FRACTURES AFTER DISCONTINUATION OF DENOSUMAB: NINE CASES REPORT

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Background: Denosumab (DNB) is an IgG monoclonal antibody with high affinity for RANKL that transiently decreases bone resorption. It increases bone mineral density (BMD) and decreases turnover markers, reducing fracture risk in patients with osteoporosis (OP). Several cases of rapid loss of BMD, severe bone turnover rebound (BTR) and associated fractures have been reported after DNB discontinuation. A clinical alert has been generated from these findings.

Objectives: To evaluate the clinical and demographic features in a case series of patients with multiple vertebral fractures after discontinuation of denosumab.

Methods: An observational descriptive study analysing data from nine patients with multiple vertebral fractures after DNB discontinuation that were admitted to our Rheumatology service between 2015 and 2017.

Results: Nine women with postmenopausal OP that received treatment with DNB were included (table 1). Mean age at treatment onset was 66.9±8.0 SD years. Four of them had previous fragility fractures, and one of them had risk factors for secondary OP (treatment with aromatase inhibitors, case 8). Eight patients (88.9%) had already received treatment other than DNB. Mean DNB received doses was 6±1.6 SD. Mean T-score before treatment was –2.6±0.6 SD for femoral neck (FN) and –3.0±1.3 SD for lumbar spine. Mean T-score ±SD after 6 months or more of DNB discontinuation was –3.5±0.8 and –3.3±1.8, respectively. Bone turnover markers (BTM) remained elevated (CTX mean 0.143 ±0.663 SD ng/ml and P1NP 152.1±122.4 SD ng/ml). There were a total of 47 fractures, and all occurred spontaneously. Most affected vertebrae were D9, D12, L3 y L5. Two patients underwent vertebroplasty, suffering both of them vertebral fractures after surgery.

Table 1 Clinical features of the patients

	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6	Case 7	Case 8	Case 9
Age*	72	57	59	67	64	61	81	76	65
BMI*	24	24.2	25.7	22.3	22.2	20	30.2	19.1	35.1
FRAX Index*	NR	Major Fx 7.1%; Hip Fx 2.5%	Major Fx 40%; Hip Fx 14%	NR	Major Fx 10%; Hip Fx 2.5%	NR	NR	Major Fx 16%; Hip Fx 9.8%	Major Fx 6.8%; Hip Fx 2.1%
Previous Fx	Right humerus several vertebrae	No	D12	No	Colles	No	No	No	D12, L1, L2, L4
DNB doses	6	8	8	6	4	7	7	7	6
Time last dose-fx*	18	8	10	12	15	9	8	12	8
Number of fx after DNB end	10	5	3	4	2	7	3	5	8
Fx localization	D8, D10, D11, L1, L5	D10, D11, L2, L3, L5	D8, D12	D6, D5, D7, D9, D11	L3, L5	D7, D12, L2, L3, L4, L5	D6, D9, D12	D6, D8, D9, D10, L3	D5, D6, D8, D9, D10, D11, L3, L5
End cause	Oral surgery	Max duration FN -2.2; LS -3.9	Max duration FN -3.5; LS -0.3	Max duration FN -3.4; LS -4.0	Low fx risk FN -2.4; LS -3.4	Oral surgery FN -3.2; LS -3.0	Max duration FN -1.9; LS -2.8	Max duration FN -1.9; LS -2.3	Max duration FN -1.9; LS -2.3
Previous T-score*	-4.4	-3.9	-0.3	-4.0	-3.4	-3.0	-2.8	-2.3	-2.3
Post score*	T: FN -3.2; LS -4.1	FN -3.0; LS -4.7	FN -2.5; LS 0.4	FN -3.4; LS -4.0	NR	FN -4.1; LS -4.0	NR	FN -4.7; LS -3.7	NR
CTX after	1.89	1.40	1.45	1.44	NR	1.07	0.95	NR	NR
P1NP after	387.4	220.6	92.3	154.2	NR	196.0	142.6	NR	NR
Tm after	Teriparatide	Teriparatide	Zoledronic Acid	Zoledronic Acid	Denosumab	Teriparatide	Teriparatide	Teriparatide	Alendronic acid

BMi: Body Mass Index; Fx: fractures; Tm: treatment; CTX: collagen telopeptide; P1NP: collagen propeptide; FN: femoral neck; LS: lumbar spine; NR: Not reported.

*At onset of DNB treatment.

*Time last DNB until first fracture, in months

*T-score before DNB.

*T-score 6 months or later from DNB discontinuation.

*Bone turnover markers after treatment discontinuation, at least 10 months later

Conclusions: This report of nine cases suffering multiple vertebral fractures early after the interruption of the DNB highlights the emerging concern on the subject in the scientific community and the need to clarify its pathogenic mechanism ("rebound effect") and support in solid evidence the new recommendations on its management.

Disclosure of Interest: None declared

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PREDICTING 1-YEAR MORTALITY AFTER A FRAGILITY HIP FRACTURE – THE EXPERIENCE OF A FRACTURE LIAISON SERVICE

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Background: Hip fractures are the most serious outcome of osteoporosis and are a leading public health concern due to the associated increase in morbidity and mortality, loss of independence and financial burden.

Objectives: The aim of this study was to investigate possible predictive factors of 1 year mortality in patients with fragility proximal femur fracture referred to a fracture liaison service (FLS).

Methods: Patients aged ≥65 years admitted in Orthopaedics department with a fragility hip fracture were evaluated and referred to the Rheumatology outpatient clinic. In this setting patients were evaluated with laboratory and radiological workup and afterwards anti-osteoporotic therapy was started. We retrospectively collected information regarding patients hospitalised from March 2015 to March 2017 and conducted univariate and multivariate analysis to determine possible predictive factors of 1 year mortality.

Results: 522 patients were included, with a median age of 84 years (range 65–104), 416 (79.7%) females. The median time to intervention was 2 days (range 0–44) and median hospital stay 10 days (range 0–175). Median Charlson Comorbidity Index (CCI) score was 5 (range 2–13). In-hospital mortality was 6.3% and overall 1 year mortality was 16.7%.

In the univariate analysis, the factors significantly associated with death in one year time were male gender, CCI score >5, previous physical limitation in daily activities, walking disability previously and 2 months after the fracture, longer time to surgery (>48 hour), conservative treatment and previous osteoporosis diagnosis. In multivariate analysis previous physical limitation in daily activities (OR 2.1, CI 1.22–3.62; $p=0.007$) and walking disability 2 months after the fracture (OR 4.23, CI 1.73–10.37; $p=0.002$) were independent predictors of 1 year mortality.

Conclusions: In this study, in-hospital mortality was similar to what has been described in literature but 1 year mortality was slightly lower. Previous physical limitation and walking disability 2 months after the fracture were independent risk factors for 1 year mortality. These findings should be confirmed in larger, prospective studies with a control group.

Disclosure of Interest: None declared

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