"Retrospective-prospective Observational Study in rEal life treatment in Mexican patients with denosumAb queRY database (ROSEMARY Database)"

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PURPOSE

The clinical efficacy of denosumab (DMAb) has been well characterized in the **F**racture **RE**duction **E**valuation of **D**enosumab in **O**steoporosis every 6 **M**onths (***FREEDOM***) trial[1] and other studies.[2,3,4]DMAb has been available in México since February 2012 for the treatment of postmenopausal osteoporosis (PMOp). Although clinical trial data help characterize therapeutic efficacy in a very select population, understanding real-world effectiveness is of interest as patient populations may be more heterogeneous. The medical procedures practiced in the real world to treat a patient with PMOp are different from those applied in a clinical controlled study and can generate differences in the results. We also report the Mexican experiences in the daily practice of the treatment of PMOp with DMAb

OBJECTIVES

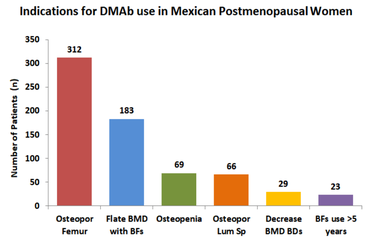
1. Define increases in bone mass measured by dual x-ray densitometry (DXA) on lumbar spine (LS), femoral neck (FN) and total femur (TF) after 4 years of treatment with DMAb in Mexican women with PMOp.
2. Gather the Mexican experiences in daily practice of the treatment of PMOp with DMAb.
3. Describe clinical characteristics of women with PMOp treated with DMAb in Mexico.
4. Document Adverse Events (AEs) during treatment.
5. Calculate Risk of Fracture using FRAX® tool adjusted with Mexican epidemiologic data when starting treatment with DMAb.

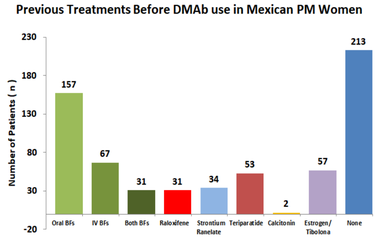
METHODS

This is a 48-month, multicenter, retrospective-prospective descriptive cohort study in Mexico, There are at least 4 years of clinical records of patients who have been treated with DMAb and the number will continue to increase in the following years. The approved dose for the treatment of PMOp in Mexico is 60mg s.c. every 6 months. The duration of treatment is up to the treating physician once the patient reached the desired levels of bone mass and/or their fracture risk has been reduced. We create a database registry (web based) to collecting data from eleven different Osteoporosis Care Centers from private practice. Primary indications for DMAb use, prior treatment, history of fractures, DXA scans at baseline and 12, 24, 36 and 48 months follow-up at the same anatomical site (lumbar spine, femoral neck and total femur) were recorded. DXA scans were analyzed at local study sites without central reading. The 10-year probability of hip fracture and major osteoporotic fracture using FRAX was calculated at the beginning of treatment. Secondary effects and fractures occurred after starting the treatment were recorded.

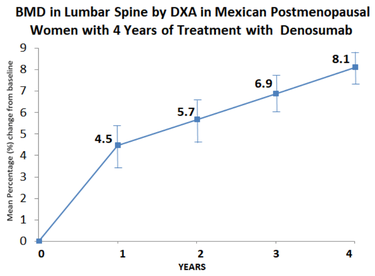
RESULTS

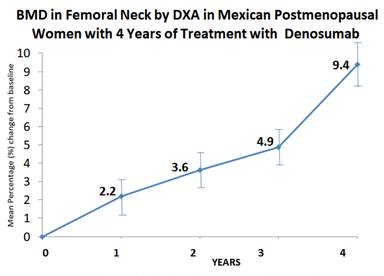
Of the 504 patients recorded, the average age at baseline was 67±12.9 years old and 75% of all patients was older than 60 years. The main reason for use DMAb was : Hip osteoporosis by DXA (61.9%) Decrease or non-response in BMD using BFs(42%), Lumbar Spine osteoporosis by DXA (13%) and >5 years of BFs use 4.5%. DMAb was used as the first anti-osteoporosis drug in 195 (38.6%) and 61.4% had used prior medication. Oral Bisphosphonates (BFs) 31.1%, IV-BFs 13.2% or both 6.1% was the prior medication most used.

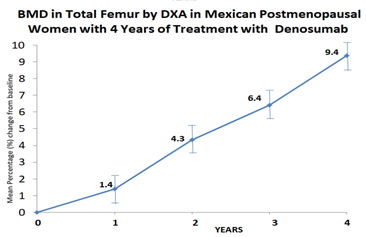


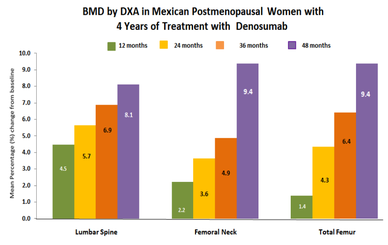


As expected, BMD increased over time, mean BMD at the LS increased from baseline (BL) by 4.5%, 5.7%, 6.9% and 8.1% at months 12, 24, 34 and 48 respectively. At FN, BMD increased from BL by 2.2%, 3.6%, 4.8% and 9.4% at months 12,24,34 and 48 respectively. At TF, BMD increased from BL by 1.4%, 4.3%, 6.4% and 9.4% at months 12, 24, 34 and 48 respectively.



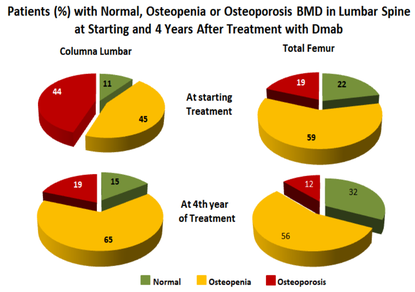






The mean T-score in the LS at BL was -2.17 and at 1st year it increased to -0.98 and at 4th year was -0.03. The mean T-score in the FN at BL was -1.86 and at the 1st year it increased to -0.86 and at 4th year was -0.03. The mean T-score in the TF at BL was -1.43 and at the 1st year it increased to -0.61 and at 4th year was -0.03.

DXA at BL shows 44% of patients with osteoporosis and 45% with osteopenia at LS and at 4th year they improve 19% and 65% respectively and 15% with normal values.At TF 19% with osteoporosis and 59% with osteopenia and at 4th year they improves to12% and 56% respectively and 32% with normal values.



Patients presented different levels of risk of fracture at baseline. The mean of 10-year probability of fracture using FRAX shows at BL 8.5±5.8 SD for major osteoporotic fracture and 2.8±3.4 SD for Hip fractures using Mexican adjusted values at http://www.shef.ac.uk/FRAX/.

Prevalent fractures was present at starting treatment in 75(14.8%) patients, 21(4.1%) patients with >1 fracture, and 410 (81.3%) patients without previous fractures.

Incident fractures developed during DMAb treatment in 16 (3.1%) patients with 9 (1.7%) at least 1 Fracture and 7 with >1 Fractures (1.3%)

Adverse effects was reported in 9 (1.7%) of patients treated with DMAb skin rash (3) bone pain (2) blood pressure increase (1) tingling in legs (1) oral ulcers (1) and thrombocytopenia (1)

CONCLUSIONS

DMAb improved BMD in most patients in a real-world setting. Moreover, the changes observed in routine clinical practice were similar to the efficacy achieved in DMAb clinical trials. The clinical profile of Mexican Postmenopausal women with Osteoporosis using DMAb are similar to other populations and DMAb has shown to be as safe as it was shown in clinical registration studies.

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