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GOAL-DIRECTED TREATMENT OF OSTEOPOROSIS IN PATIENTS WITH RHEUMATOID ARTHRITIS USING DENOSUMAB FOR THREE YEARS

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Background: Osteoporosis (OP) is frequently concomitant with rheumatoid arthritis (RA). Effective treatment have to be performed in OP in RA (RAOP). Denosumab (DMB) is one of the promising drugs for the treatment of RAOP. We reported results of 12-month DMB treatment for RAOP from Japanese multicenter registry study (TBCR-BONE) in EULAR2016¹. Recently treatment goal of OP was reported from American society for bone and mineral research and National Osteoporosis Foundation (ASBMR-NOF) working group (Goal-Directed Treatment)². This progress report advocated that the goal of treatment is a T-score > -2.5 at femoral neck, total hip (TH) or lumbar spine (LS) by DXA if the primary reason for starting treatment was T-score < -2.5 at that skeletal site. The Working Group judged that it was intuitively reasonable to expect that initial treatment should offer at least a 50% chance of achieving the treatment goal within 3 to 5 years of starting therapy.

Objectives: The aim of this retrospective study is to evaluate whether 3-year DMB treatment can achieve treatment goal of OP reported recently from TBCR-BONE.

Methods: This study used 78 female RAOP patients who completed 3-year DMB treatment for RAOP. 36 patients in whom baseline T-score of LS-BMD were -2.5 or less were included in LS-BMD analysis. 52 patients in whom baseline T-score of TH-BMD were -2.5 or less were included in TH-BMD analysis in the same way. As was in clinical setting in Japan, 60mg DMB was administered every 6 months with vitamin D3 agent. Patients' characteristics, time course of T-score and baseline characteristics related to achievement of treatment goal (T-score > -2.5) were investigated.

Results: Baseline characteristics of 78 patients: Mean age was 71 years. RA duration was 17 years. Prednisolone user was 32%. LS-BMD analysis (n=35) T-score was significantly increased (-3.5 at baseline, -3.0 at 1 year, -2.9 at 2 years, -2.8 at 3 years). The rates of patients who achieved treatment goal were 30.6% at 1 year, 38.9% at 2 years and 44.4% at 3 years (Fig1A). The achiever had significant lower baseline fracture risk by FRAX (20.1% vs. 33.9%; p=0.013), significant lower baseline mHAQ (0.45 vs. 1.05; p=0.03) and significant lower baseline T-score of LS-BMD (-3.0 vs. -3.9; p<0.01) than the non-achiever did. TH-BMD analysis (n=52) T-score was significantly increased (-3.2 at baseline, -3.0 at 1 year, -2.9 at 2 years, -2.9 at 3 years). The rates of patients who achieved treatment goal were 19.2% at 1 year, 28.8% at 2 years and 25.0% at 3 years (Fig1B). The achiever had significant lower baseline bone turn over marker (P1NP and TRACP-5b) and significant lower baseline T-score of TH-BMD (-2.6 vs. -3.3; p<0.01) than the non-achiever did. Cut-off values at baseline for achievement of treatment goal calculated using receiver operating characteristic analysis was -3.4 in LS-BMD and -2.7 in THBMD.

Conclusion: This study suggested that achievement of treatment goal in RAOP is not possible in LS-BMD and in TH-BMD when 3-year DMB was used as treatment for RAOP. Longer duration or earlier initiation of DMB treatment is necessary to achieve the goal. Although response in LS-BMD was related to fracture risk and physical function, response in TH-BMD was related to bone turnover. We will report 5-year results in the future.

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Fig1. Change of percentage of patients with T-score > -2.5
A: results of lumbar spine bone mineral density (n=36)
B: results of total hip bone mineral density (n=52)

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MANAGEMENT OF SECONDARY OSTEOPOROSIS FRACTURES IN FRACTURE LIAISON SERVICE OF REIMS HOSPITAL IN FRANCE: STUDY AT 25 MONTHS OF FOLLOW-UP

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Background: Osteoporosis is a major public health issue, progressing with the aging of the population and responsible for nearly 400,000 fractures/year in France. Fracture Liaison Services (FLS) are systems of detection and secondary prevention of osteoporotic fractures. These systems are recognized as effective by international scientific societies.

Objectives: The aim of this study was to evaluate the efficiency of Reims Hospital FLS protocol after 25 months of implementation.

Methods: We performed an ambispective monocentric observational study at the Reims Hospital between April 2016 and May 2018. We included patients over 50 years who were hospitalized in the orthopedic department for osteoporotic fractures. These patients were evaluated clinically, biologically and radiographically during a one-day hospitalization in the rheumatology unit. Therapeutic compliance and fracture recurrence were assessed in consultation at 3-month and 1-year telephone interviews.

Results: Sixty-four/242 patients (26.4%) identified in orthopedic service were included. The average age was 72 years old with a sex ratio of 1:10. The most common fracture was the proximal end of the femur for 25 patients (39%). Fifty-five patients (85.9%) had an indication for osteoporosis treatment, the most prescribed was zoledronic acid for 45 patients (81.9%). Twenty-four/55 patients (43.6%) started their treatment and 22/24 (91.7%) were still treated at one year.

One patient (1.63%) died within the follow-up period. Twelve/55 patients (21.8%) presented a new fall and 7/55 patients (12.7%) experienced a new fracture.

Comparative analysis of observant versus non-observant population groups at 1 year showed that non-observant patients had significantly more recurrent falls (93.54% versus 68.18%, p = 0.024) and received treatment of zoledronic acid (93.56% versus 63.64%, p = 0.010).

Further analysis showed that our low rate of initiation treatment was due to difficulties in implementing bisphosphonates, mainly because of the dental care needed. However, we observed a high rate of treatment adhesion at 1 year, once the treatment is started. During this study, we identified 2 areas of improvement: therapeutic education to improve patient adherence and fall risk factors to decrease recurrent fall rate.

Conclusion: There is a real benefit to the establishment of this FLS with a high rate of therapeutic compliance at 1 year follow-up. However there are opportunities for improvements in treatment initiation through patients therapeutic education.

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