Conclusion: Compared with RIS, DMAB was associated with sustained improvements in cortical bone structure, assessed by HR-pQCT of the radius and tibia. It remains to be confirmed whether increased cortical thickness with DMAB is associated with improved bone strength in GIOP. These results further support DMAB as a treatment for GC-treated patients at increased fracture risk.

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OP0081

RELATIONSHIP BETWEEN DIFFUSE IDIOPATHIC SKELETAL HYPEROSTOSIS AND FRAGILITY VERTEBRAL FRACTURE – A PROSPECTIVE STUDY IN OLDER MEN

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Background: Diffuse idiopathic skeletal hyperostosis (DISH) is a common disorder of unknown cause characterized by ossifications of entheses with spinal and extraspinal manifestations(1). The prevalence ranges from 4% to 35%, depending on the diagnostic criteria (2). An increased risk of vertebral fracture in DISH has been suggested, due to the loss of flexibility of the fused spine, reminiscent of what is observed in ankylosing spondylitis(3–6).

Objectives: The aim of this study was to prospectively analyze the risk of vertebral fracture in men with DISH, compared with men without DISH.

Methods: Men older than 50 (n = 782) had coronal and lateral spine radiographs along with DXA and were monitored prospectively. We analyzed the risk of incident vertebral fractures (over 7.5 years) in men with DISH defined by flowing ossification alongside the anterolateral aspect of at least four contiguous vertebral bodies, relative intervertebral disc preservation and the absence of apophyseal ankylosis and inflammatory changes of the SI joints, according to Resnick criteria (7). Incident vertebral fracture was defined by a decrease of at least 20% or 4 mm in any vertebral height (anterior, central or posterior) between the follow-up and the baseline radiographs.

Results: DISH was present in 21.7% (170/782) of men (mean age=). Among the 782 examined at baseline, 761 had at least one spine X-ray after baseline and 164/170 men with DISH had enough available data to be analyzed. Vertebral fracture incidence was higher in men with DISH compared with those without DISH (mean 10/164 (6.1%) vs. 16/597 (2.7%); p<0.05). DISH was also associated with

the risk of vertebral fracture after adjustment for age, BMI, lumbar spine bone mineral density (BMD), prevalent vertebral fractures (Grade 2&3), disc space narrowing and endplate irregularity (OR = 2.89, [95%CI : 1.15 – 7.28]; p<0.05). 6.3% (10/149) of men with DISH had both normal BMD (≥ 0.912 g/cm²) and increased risk of vertebral fracture (OR 6.54 [95%CI : 2.13 – 20.26]; p<0.05).

Conclusion: DISH is associated with higher risk of vertebral fracture, independently of BMD. The risk of vertebral fracture of men with DISH but normal BMD may be underestimated.

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OP0082

TEMPORAL TRENDS OF BISPHOSPHONATE DISCONTINUATION AND FACTORS ASSOCIATED WITH ALENDRONATE DISCONTINUATION AND RESTART AT POPULATION LEVEL

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Background: Bisphosphonates are the most commonly used class of osteoporosis medication worldwide. Rare adverse events related to long-term use of bisphosphonates have raised interest in planned temporary drug discontinuation. Due to chronicity of osteoporosis, restarting osteoporosis medication is likely to be needed after such a discontinuation. Trends in the discontinuation and the restart of bisphosphonates and their reasons are not fully understood.

Objectives: We investigated the temporal trends of bisphosphonate discontinuation from 2010 to 2015 and evaluated the factors associated with alendronate only discontinuation and restart of any osteoporosis medication at a population level.

Methods: To determine the temporal trends of discontinuation (at least 12 months without prescription claims) from 2010 to 2015, we identified a cohort of women with long-term bisphosphonate therapy (medication possession ratio (MPR) $\geq 80\%$ for at least 3 continuous years) derived from the enhanced 5% Medicare sample and a cohort of beneficiaries with evidence of osteoporosis (defined using diagnosis and fracture codes, and medication claims). We used a case-crossover design, nested within the cohort study, to identify factors associated with discontinuation of long-term alendronate therapy and restart of any osteoporosis medication. We used conditional logistic regression adjusted for potential confounders to compare factors associated with alendronate discontinuation and osteoporosis therapy restart in the hazard period (120 days) referent to the preceding control periods (120 days).

Results: We identified a total of 73,800 women with exclusive long-term alendronate (59,251), risendronate (6,806), or zoledronic acid (7,743) use, respectively, of which 26,281 (35.6%) women discontinued therapy. The proportion of long-term bisphosphonate users who discontinued therapy increased from 1.7% in 2010 to 14.0% in 2012, and remained relatively stable thereafter (Figure 1). After adjustment, factors most strongly associated with the discontinuation of alendronate included: a new prescription of benzodiazepines (adjusted Odds Ratio [aOR] = 2.5, 95% CI [2.1, 3.0]), prior dual-energy X-ray absorptiometry (DXA) scan (aOR = 1.8, 95% CI [1.7, 2.0]), skilled nursing facility care utilization (aOR = 1.8, 95% CI [1.6, 2.1]). Factors most strongly associated with the restart of any osteoporosis

medication were: performing DXA scan (aOR = 9.9, 95% CI [7.7, 12.6]), fragility fracture (aOR = 2.8, 95% CI [1.8, 4.5]), and osteoporosis or osteopenia diagnosis (aOR = 2.5, 95% CI [2.0, 3.1]).

Conclusion: We describe temporal trends in bisphosphonate discontinuations and factors associated with discontinuation of alendronate and restart of osteoporosis therapy. From 2010 to 2015, approximately one-third of women with long-term bisphosphonate treatment discontinued treatment for ≥ 12 months. We observed an increasing trend in discontinuation from 2010 to 2012, which remained steady through 2015. Factors associated with discontinuation of alendronate were associated with worsening of overall health status, while factors traditionally associated with worsening bone health were associated with restart of osteoporosis medication.

Figure 1. Temporal trends of Bisphosphonate Discontinuation in U.S. Medicare women beneficiaries by calendar year

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OP0083

PREVALENCE OF VERTEBRAL FRACTURES IN POSTMENOPAUSAL WOMEN WITH RHEUMATOID ARTHRITIS

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Background: Rheumatoid arthritis (RA) is a risk factor for the development of fragility fractures, but there is little quality data on its prevalence. Conversely, osteoporosis is one of the most frequent comorbidities of RA.

Objectives: To determine the prevalence of vertebral fractures in postmenopausal women with RA and to analyse their characteristics and associated risk factors.

Methods: We included 346 postmenopausal women diagnosed with RA according to the ACR/EULAR 2010 criteria in 19 Spanish Rheumatology Departments, randomly selected from the registry of RA patients in each center, recruited during 2018. Lateral radiographs of the dorsal and lumbar spine were obtained from all patients, to evaluate morphometric vertebral fractures. Expert rheumatologists identified vertebral fractures and classified them into mild (grade 1: reduction of height of 20-25%), moderate (grade 2: reduction of 26-40%) and severe (grade 3: reduction > 40%), according to the Genant grading scale. The spinal deformity index (SDI) was calculated by assigning numbers 1, 2 and 3 to each fractured

vertebra and adding the total score of each patient. The study variables were: a) age, body mass index (BMI), b) factors related to RA: time of evolution, FR, ACPA, and c) fracture risk factors: prior fragility fracture, parental hip fracture, glucocorticoids, smoking, alcohol intake ≥ 3 units daily, secondary osteoporosis and time since menopause.

Results: The mean age was 66.8 (SD: 10.1) years and the median evolution of the disease, 8.00 [RIQ: 3.00-15.5] years. 77.2% (n: 267) and 75.7% (n: 252) had FR and ACPA +, respectively. The mean duration of the postmenopausal period was 15.0 (SD: 9.6) years. 23.4% (n: 79) of patients had at least one vertebral fracture; 10.7% (n: 36) had a single fracture and 12.7% (n: 43), multiple fractures. The most fractured vertebrae were D12, L1 and L2 (fractured in > 5% of patients). The median SDI was 3 [RIQ: 2-5]. The vertebrae with the highest mean IDE were D8, D10, D11 and L1 (all mean IDE ≥ 2). An association was found between the presence of vertebral fractures and age, height, postmenopausal period, time of disease progression, glucocorticoid treatment and parental hip. No linear association was found between SDI and age, time of evolution of the disease, BMI and time since menopause.

Conclusion: One out of every 4 postmenopausal women with RA has at least one vertebral fracture. Vertebrae of the dorso-lumbar hinge are the most frequently involved and the magnitude of the spinal deformity is relevant. Vertebral fractures are related to the time of evolution of RA and to the risk factors for fracture.

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OP0084

FRAGILITY HIP FRACTURES – DOES DESTINATION AFTER HOSPITAL DISCHARGE HAVE AN IMPACT ON PATIENT'S OUTCOME?

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Background: In Osteoporosis, hip fractures account for significant disease burden, with increased morbi-mortality. Because of this, patients are referred to rehabilitation and specific health care units, in order to regain autonomy and health. However, there is few evidence about patients' outcome, considering destination after inpatient discharge.

Objectives: To evaluate if destination after hospital discharge for a osteoporotic hip fracture has impact in the outcome (mortality and new fracture).

Methods: Patients referred to a Fracture Liaison Service from March 2015 until March 2017 with a fragility hip fracture were considered for this study. Clinical/demographic variables were retrospectively collected until January 2018, including destination at discharge (home, nursing home (NH), inpatient rehabilitation unit (RU)) and outcome (death, new fracture, lost to follow-up). Kaplan Meyer curves with log-rank test were used for statistical analysis (SPSS statistics 23); $p < 0.05$ was considered statistically significant.

Results: From a total of 522 patients, 437 patients were discharged with a known destination: 58.1% to home (n=254), 27.7% to a RU and the remaining to a NH. Table 1 summarizes clinical and demographic characteristics of the sample. Seventy-four patients died (median time = 264 days, range 22-1049) and 43 suffered a new fracture (median time 301, 15-946); 129 patients maintained follow-up. Mortality rates within each group of discharged patients were: 15.4% in the group destined home, 22.6% in the group forwarded to a NH and 17.4% in those referred to a RU. No statistically significant difference was found in cumulative survivals between groups (figure 1A). The event refracture was observed in 10.2% of those discharged home, 6.5% in the group forwarded to a NH and 10.7% of those referred to a RU. Again, no statistically significant difference was observed (figure 1B).