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), risedronate (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