Results: No differences were seen on comparing the baseline parameters of the 3 groups. In comparison to the baseline, there was significant increase in the BMD in the 3 groups, Denosumab / Zol/Ont at both spine and hip (P = 0.02) at 5, 3- and 5-years of treatment respectively. In the denosumab group, at 5-years of therapy, there was significant decrease in falls risk score (-1.4, 95% CI = −2.8 to −0.7; P = .01), significant improvements in the grip strength (+4.2Kg, P = 0.01), SPBP score (12 points; 95% CI = −0.2 to 2.2; P = .22), TUG (1.7 seconds; 95% CI = −2.2 to 0.1; P = .031) and gait speed (0.1 m/s; 95% CI = 0.03-0.2; P = .01). Zol and Aln improved significantly SPBP score (0.9 and 0.8 points; P = .04), TUG (1.4 and 13 seconds; P = .05) and gait speed (0.2 and 0.3 m/s; P = .02) respectively, however, there was no significant change in the falls risk (p = 0.06 and 0.07 respectively). 1-year after stopping Denosumab, there was significant worsening of the falls risk score, grip strength, SPBP score, TUG and gait speed (P = 0.1). There was no difference in all the measures 1-year after stopping Zol and Aln.

There was no relation to the increase in BMD gained.

Conclusion: Denosumab displayed positive impact and significant improvements in physical performance, grip strength and gait speed. Also, Denosumab, enhanced multidirectional agility as depicted by TUG. Collectively, this would explain the reduction of falls risk which got worse on stopping the medication.

Osteoporosis and sarcopenia share similar risk factors, highlighting muscle-bone interactions, which may result in debilitating consequences, such as falls and fractures. RANK/RANKL/OPG pathway, a key regulator of bone homeostasis, may contribute also to the regulation of skeletal muscle integrity and bone-muscle interactions, which may result in debilitating consequences, such as falls and fractures. Risk of bias was evaluated by the Cochrane tool. Meta-analysis with the Mantel-Haenszel method was conducted to calculate the Chi-square (PEA). Risk of bias was evaluated by The Cochrane tool. Meta-analysis with the Mantel-Haenszel method was conducted to calculate the Chi-square (PEA).

Background: Response criteria and disease activity status used to assess treat-ment efficacy in axial spondyloarthritis (axSpA) are: the ASAS response criteria (ASAS20; 40; 5/6 and partial remission - PR), BASDAI50 and ASDAS-based criteria (clinically important/major improvement –CI/MI; low disease activity/ inactive disease –LDA/IID). These outcomes are variably used in RCTs testing biological (b) and targeted-synthetic (ts)DMARDs. However, it remains unknown which are the most discriminative. Objectives: To compare the ability of different criteria to discriminate between the response to active treatment and placebo in axSpA.

Methods: A systematic literature review was performed in Medline and Embase to identify RCTs of b- and tsDMARDs. Placebo-controlled RCTs meeting the primary endpoint were included provided they reported ≥2 response/status cri-teria. Results were collected at the timepoint of primary endpoint assessment (PEA). Risk of bias was evaluated by The Cochrane tool. Meta-analysis with the Mantel-Haenszel method was conducted to calculate the Chi-square (X²) between percentages of patients fulfilling each criterion in the treatment arm versus the placebo arm (higher X², better discrimination). Comparisons among criteria were conducted evaluating their performances across RCTs reporting the exact same outcomes at the PEA. Different sets of RCTs were used for the comparisons depending on the variable of interest (time, place, etc.).

Results: 29 RCTs fulfilled inclusion criteria. In total, 23/29 RCTs with PEA at 12, 14 or 16 weeks, all at a low risk of bias, could be considered for meta-anal-ysis. Other 6 RCTs had later (e.g 24 weeks) or earlier (e.g. 6 weeks) PEA. Out of the 23 RCTs, only 16 reported at least a minimum set of ASAS20, -40, -PR, BASDAI50 and ASDAS-based criteria (clinically important/major improvement –CI/MI; low disease activity/ inactive disease –LDA/IID). These outcomes are variably used in RCTs testing biological (b) and targeted-synthetic (ts)DMARDs. However, it remains unknown which are the most discriminative. Objectives: To compare the ability of different criteria to discriminate between the response to active treatment and placebo in axSpA.

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