Conclusions: Long-term therapy with a TNF blocker seems to decelerate progression of structural damage in the SIJ. Elevated CRP and presence of osteitis in MRI were independently associated with SIJ radiographic progression.

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OP0026

ADALIMUMAB SERUM CONCENTRATION FAILS TO PREDICT ACHIEVEMENT OF SUSTAINED REMISSION OR ABSENCE OF FLARE FOR PATIENTS WITH NON-RADIOGRAPHIC AXIAL SPONDYLOARTHRITIS IN THE ABILITY-3 STUDY

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Background: In patients (pts) with active non-radiographic axial spondyloarthritis (nr-axSpA) in the ABILITY-3 study who achieved sustained remission with adalimumab (ADA), continued ADA therapy was associated with significantly fewer pts flaring than treatment withdrawal. Sustained remission is an important treatment goal in pts with nr-axSpA, but factors predicting sustained remission and absence of flare are unknown.

Objectives: To determine whether an ADA concentration threshold is predictive of achievement of sustained remission and absence of flare in pts with nr-axSpA.

Methods: ABILITY-3 included a 28-wk open-label (OL) ADA (40 mg every other wk) lead-in in which pts who achieved sustained remission (ASDAS <1.3 at wks 16, 20, 24, and 28) were randomised to double-blind (DB) placebo (PBO) or continued ADA for 40 wks (68 wks total). Pts not achieving remission were discontinued at wks 20, 24, or 28. The primary efficacy variable was the proportion of pts who did not experience a flare (ASDAS ≥2.1 at 2 consecutive visits) by wk 68. Pts who flared received OL ADA rescue. ADA trough concentrations at wks 12 or 28 were used to predict achieving sustained remission by wk 28 (all OL patients, n=673) and absence of flare at wk 68 (patients randomised to DB ADA, n=152). Threshold analysis was conducted by constructing receiver operating characteristic (ROC) curves (R Ver 3.3.3) to assess predictive ADA trough concentration thresholds based on specificity and sensitivity values.

Results: Of 673 pts enrolled in the OL phase, 305 met criteria for remission at wk 28 and were randomised to DB treatment. Mean ±SD ADA trough concentrations were 6.68±5.23 µg/mL at wk 12 and 8.36±5.27 µg/mL at wk 28. During the DB phase, 81 and 45 pts flared and 68 and 36 pts received ≥12 wks of OL ADA rescue in PBO (n=153) and ADA (n=152) arms, respectively. ADA mean ±SD trough concentration at wk 68 for pts randomised to DB ADA with flare (7.64±5.22 µg/mL) was slightly lower than for DB ADA pts without flare (8.12±4.35 µg/mL). ROC curves showed AUC values ≤0.6 for achieving sustained remission by wk 28 and absence of flare at wk 68, with no concentration threshold meeting sensitivity and specificity criteria for reliable prediction of such endpoints (figure 1).

Abstract OP0026 – Figure 1 Receiver operating characteristic curves to predict sustained remission by week 28 and absence of flare at week 68 by adalimumab serum concentration

Conclusions: ROC analyses did not identify an ADA trough concentration threshold that reliably predicted whether a pt with nr-axSpA would achieve sustained remission (by wk 28) or absence of flare (at wk 68).

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OP0027

CHARACTERISTICS OF CYTOKINES AND CHANGES IN INTERLEUKIN-17 LEVELS IN THE SYNOVIAL FLUID OF PATIENTS WITH ANKYLOSING SPONDYLITIS ON TREATMENT WITH BIOLOGICS

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Background: Biologic drugs targeting the inflammatory cytokines have been recommended in rheumatoid arthritis (RA) and ankylosing spondylitis (AS). Yet, some patients require a change in treatment because an adequate response is not achieved.

Objectives: The current study aimed to evaluate the levels of tumour necrosis factor alpha (TNF-α), interleukin (IL)–17, IL-23, and granulocyte-macrophage colony-stimulating factor (GM-CSF) in the joint fluid in patients with AS and RA and identify the important cytokines related with treatment-response.

Methods: Synovial fluid was obtained from 18 patients with AS and 19 with RA who suffered from arthritis of the knee; and the levels of the cytokines were measured. The differences in their levels between patients with AS and RA, and between patients treated with and without biologics (biologics group and non-biologics group) were analysed.

Results: TNF-α and GM-CSF levels in patients with AS were significantly lower than those in patients with RA (figure 1A, both p<0.01); however, IL-17 and IL-23 levels were not significantly different between the two groups. Furthermore, levels of IL-17 were markedly elevated in the biologics group compared with the non-biologics group in AS (figure 1B, p=0.04). However, in RA, there were no significant differences between the non-biologics and biologics group (figure 1C).

Conclusions: In AS, IL-17 in synovial fluid is a good marker of non-response to biologics and may be a good target for non-responders to TNF inhibitor.

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