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FRI0375 SITE-SPECIFIC EFFECTIVENESS OF TNF INHIBITORS FOR ENTHESITIS IN DMARD-NAIVE PATIENTS WITH AXIAL SPONDYLOARTHRITIS

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Background: Enthesitis is a hallmark of spondyloarthritis (SpA), with substantial impact on quality of life. Although pathophysiological mechanisms of enthesitis may include both mechanical and autoimmune features, improvements upon initiation of TNF-inhibitors (TNFi) across individual enthesitis sites have not been reported in real-world patients with axial spondyloarthritis (axSpA).

Objectives: To investigate the effectiveness of TNFi in axSpA patients without prior DMARD treatment at specific enthesitis sites, including spine, thoracic cage, Achilles tendon and the plantar fascia.

Methods: This was a retrospective cohort study using the Swiss Clinical Quality Management in Rheumatic Diseases (SCQM) registry. AxSpA patients initiating TNFi without previous DMARD (biologic or conventional synthetic DMARD [csDMARD]) use and with available Maastricht Ankylosing Spondylitis Enthesitis Score, modified to include the plantar fascia, (MASES) at start of treatment ('baseline') and after 6 months ($\pm$ 3 months) of follow up were included. Presence of enthesitis was defined as at least 1 inflamed enthesitis. Among patients with any enthesitis present at baseline, the number of patients with enthesitis at each MASES site was assessed at baseline and the 6 month follow up. Fisher's exact test was used to assess significant enthesitis resolution at each enthesitis site between baseline and 6-month follow up. The Holm-Bonferroni method was used for multiplicity correction of p-values.

Results: 781 DMARD-naïve patients with axSpA who initiated TNFi were identified. At baseline, patients (57% male) were a median of 40 (interquartile range [IQR]) = 31-50 years of age with a median disease duration of 9 (IQR = 3-18) years and median Ankylosing Spondylitis Disease Activity Score (ASDAS-CRP) of 3.4 (IQR = 2.8-3.9) at treatment initiation. A subgroup of 160 TNFi patients had active enthesitis at baseline (MASES: mean = 4.14, standard deviation [sd] = 2.87) and a 6-month follow-up visit with MASES available (MASES: mean = 2.07, sd = 2.82), with a mean MASES reduction at the follow-up visit of 2.07 (sd = 3.06). At the 6-month follow up, complete enthesitis resolution was observed for 72 (45.0%) of patients. Enthesitis resolution was most frequent at the following sites: the costochondral sternum, the costochondral joint, the lumbar vertebra, the pelvic crest, and spina iliaca posterior (Figure 1). Limited resolution of enthesitis was observed in the spina iliaca anterior, plantar fascia, and the Achilles tendon.

Conclusion: Our results suggest that for real-world DMARD-naïve axSpA patients, TNFi are generally effective for resolving enthesitis. Significant

resolution was observed for enthesitis of the spine and thoracic cage though resolution was more limited for plantar fascia or Achilles tendon enthesitis. Lower limb entheses are more prone to mechanical strain and may therefore require alternative or more prolonged therapy.

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FRI0376 DIFFERENCES IN PHYSICAL ACTIVITY BETWEEN AXIAL SPONDYLOARTHRITIS PATIENTS WITH AND WITHOUT PHYSICAL THERAPY

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Background: Physical activity (PA) according to public health guidelines is effective and safe for people with rheumatic and musculoskeletal diseases, including axial spondyloarthritis (axSpA), and should be promoted by healthcare providers.¹ In axSpA, in particular high intensity aerobic PA is beneficial, yet this was found to be incompletely implemented in physical therapy programs.² Studies describing aerobic PA in axSpA patients with and without physical therapy are lacking.

Objectives: To describe the amount, frequency and intensity of aerobic PA in axSpA patients with and without physical therapy treatment.

Methods: A survey, which included questions on patient characteristics, current physical therapy use (individual or group), PA (Short QUEStionnaire to ASess Health-enhancing PA (SQUASH)) and health status (Assessment of Spondyloarthritis International Society Health Index (ASAS HI)), was sent by postal-mail to 458 axSpA patients registered in three hospitals in the Netherlands. From the SQUASH, besides amount (minutes/week) of all PA and meeting the PA guideline (≥ 30 minutes $\geq$ moderate PA on ≥ 5 days/week; yes/no), also the amount and frequency (sessions/week) of moderate and vigorous intensity aerobic PA during commuting and leisure (including sports) were extracted. Differences in PA behaviour between patients with and without current physical therapy were analyzed with the Mann-Whitney U or Chi-square test, where appropriate.

Results: The questionnaire was returned by 206 axSpA patients (response rate: 45%) of whom 200 completed the SQUASH correctly. Overall, 64% met the PA guideline. Half of the patients were using physical therapy (n=99; 77 individual, 11 group and 11 both); these patients had a significantly longer disease duration. Regarding overall PA, there were no differences in the total amount and the proportion meeting the guideline between patients with and without physical therapy. For moderate intensity aerobic PA, both the amount and frequency were significantly greater in the group with physical therapy, whereas for vigorous intensity aerobic PA there were no differences between the groups (Table 1).

Conclusion: More than half of people with axSpA were physically active according to public health PA guidelines. People using physical therapy engaged in significantly more moderate intensity, but not high intensity aerobic PA than those without physical therapy. These results indicate that high intensity aerobic PA should be more intensively advocated and implemented, also in physical therapy treatment.

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Table 1. Characteristics and total, moderate and vigorous PA of Dutch axSpA patients with and without current physical therapy (PT)

	With PT (n=99)	Without PT (n=101)	p-value*
Gender, male, %	71	68	.679
Age, years, median (IQR)	59 (46-69)	54 (45-67)	.260
Disease duration, years, median (IQR)	25 (11-37)	17 (7-34)	.034
DMARDs or biological use, %	46	48	.769
ASAS HI score, median (IQR)	6.0 (3.0-8.0)	5.0 (2.0-8.0)	.295
Meeting PA guideline, %	67	60	.357
Total PA, minutes/week, median (IQR)	2470 (995-3420)	2280 (1050-3147)	.460
Moderate intensity aerobic PA			
Minutes/week, median (IQR)	240 (85-435)	140 (0-300)	.007
sessions/week, median (IQR)	4 (2-8)	2 (0-6)	.005
Vigorous intensity aerobic PA			
Minutes/week, median (IQR)	120 (0-390)	40 (0-360)	.367
sessions/week, median (IQR)	2 (0-5)	1 (0-5)	.380

* P-value of Chi-square (for nominal variables) or Mann-Whitney U (for continuous variables) tests.

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FRI0377

IDENTICAL TWO-YEAR TREATMENT RETENTION OF ORIGINATOR AND BIOSIMILAR INFLIXIMAB. RESULTS OF A NORDIC COLLABORATION INCLUDING 1319 PATIENTS WITH SPONDYLOARTHRITIS

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Background: The first infliximab biosimilar (CT-P13) was introduced in Europe in 2014, followed by a rapid, but differential, uptake across the Nordic countries [1]. Pre and post-marketing randomized controlled trials have shown similar efficacy and safety of originator infliximab (INF) versus CT-P13, but a number of observational studies have indicated potential differences in long-term treatment retention. However, no large observational study has hitherto directly compared the treatment retention of INF with CT-P13 in bio-naïve patients with spondyloarthritis (SpA) starting infliximab during the same calendar-time period.

Objectives: To compare one- and two-year treatment retention of INF versus CT-P13 in SpA, when used as a first line biologic, and to explore baseline characteristics in the two cohorts.

Methods: Observational cohort study. Bio-naïve patients with ankylosing spondylitis (AS), non-radiographic axial SpA (nrax-SpA) or undifferentiated SpA (uSpA), starting INF or CT-P13 as their first ever TNFi during the time-period Jan 2014 through Jun 2017 were identified in biological registers in the five Nordic countries. SpA comorbidities were identified through linkage to national registers. Treatment retention of INF versus CT-P13 was assessed through survival probability curves and one- and two-year retention rates.

Results: In total 1319 bio-naïve patients with SpA started infliximab during the time-period, 24% started INF and 76% CT-P13. Baseline characteristics of patients in the two treatment groups were comparable (Table 1).

The survival probability curves were identical for INF compared to CT-P13 (Figure 1), and the proportion of patients remaining on treatment after one and two years were similar: one year INF 62% (95%CI 57-68%), CT-P13 63% (95%CI 60-66%); two years: INF 44% (95%CI: 38-50%) and CT-P13 46% (95%CI: 42-51%). Further confounder-adjusted analyses, are planned and will be presented at the conference.

Table 1. Baseline characteristics of infliximab treated SpA patients.

	INF (N=320)	CT-P13 (N=999)
Age at start, years	42 (14)	42 (13)
Disease duration, years	13 (12)	10 (11)
Sex, men, %	57	58
AS, %	57	46
nrax-SpA/uSpA, %	43	54
Psoriasis*, %	6	3
Inflammatory bowel disease*, %	10	11
CRP, mg/L	15 (21)	13 (22)
VAS-pain, mm	62 (23)	59 (24)
ASDAS	3.37 (1.02)	3.35 (0.97)
BASDAI, mm	6.0 (2.0)	5.6 (2.0)
BASFI, mm	4.4 (2.5)	4.8 (2.4)
Concomitant csDMARD, %	44	31

Numbers are means (standard deviations) unless otherwise stated

INF= infliximab originator; CT-P13= infliximab biosimilar.

*comorbidities only available from Sweden, Denmark and Finland.

csDMARD = conventional synthetic Disease Modifying anti-Rheumatic Drugs.

Conclusion: We found remarkably similar treatment retentions for the infliximab originator and biosimilar when used as the first line biologic in 1319 patients with SpA. The baseline characteristics of the patients starting the originator and the biosimilar suggest that the cohorts are comparable, and the results thus supports the equivalence of the treatments.

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