showed an average reduction in the BASDAI score by more than 30% at each 3 monthly interval.

Figure 1. BASDAI percentage reduction at 3 monthly intervals between the two second line treatment groups using anti-TNF and Secukinumab.

Conclusion: A significant difference could not be demonstrated between the anti-TNF and secukinumab groups in this observational cohort. Interestingly, at 6 months, anti-TNF demonstrated better outcomes according to BASDAI scores than Secukinumab but this efficacy was lost at 12 months. It was difficult to interpret these isolated results without further testing, as this is a small non-randomised study. We observed similar outcomes to the Navarro-Compán review where there was a low percentage change in the BASDAI improvement in patients on second line therapy when compared to first line treatment BASDAI scores. Therefore, exploring the mechanism for the reduction in the BASDAI response would be an interesting future study. Moreover, to fully understand these results, randomised controlled studies would need to be conducted.

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Spondyloarthritis - clinical aspects (other than treatment)

FRI0298

ASAS MODIFICATION OF THE BERLIN ALGORITHM AND THE DUET ALGORITHM FOR DIAGNOSING AXIAL SPONDYLOARTHRITIS: RESULTS FROM THE SCREENING IN AXIAL SPONDYLOARTHRITIS FOR PSORIASIS, IRITIS, AND COLITIS COHORT

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Background: Patients presenting with back pain and psoriasis, iritis, or colitis, represent a high-risk population for the presence of axial spondyloarthritis (axSpA). The Dublin Evaluation Tool (DUET)¹, the Berlin algorithm², and the ASAS modification of this algorithm³ are recommended referral strategies aimed at early diagnosis of axSpA. DUET was developed for patients presenting with AAU. Validation of these algorithms in inception cohorts is limited.

Objectives: 1. To assess the performance of referral algorithms for diagnosis of axSpA when tested against the final local rheumatologist diagnosis in an inception cohort of patients presenting with undiagnosed back pain and extra-articular manifestations. 2. To determine whether different criteria for inflammatory back pain (IBP) impact the performance of the algorithms.

Methods: The multicenter Screening for Axial Spondyloarthritis in Psoriasis, Iritis, and Colitis (SASPIC) Study at 11 sites is aimed at early detection of axial SpA in patients presenting with undiagnosed back pain to the rheumatologist. Consecutive patients ≤45 years of age with ≥3 months undiagnosed back pain with any one of psoriasis, acute anterior uveitis (AAU), or colitis diagnosed by the relevant specialist undergo routine clinical evaluation by a rheumatologist for axial SpA. The rheumatologist determines the presence or absence of axial SpA at 3 consecutive stages: 1. After the clinical evaluation; 2. After the results of labs (B27, CRP) and radiography; 3. After the results of MRI evaluation. Final diagnosis by the rheumatologist was used as external standard to test the performance of the algorithms. We tested the following criteria for IBP in the algorithm: ASAS, Berlin, rheumatologist global for likelihood of IBP >5 (0-10 scale), and DUET algorithm in AAU patients.

Results: A total of 246 patients were recruited, 73 presented with iritis, 46 with psoriasis, and 127 with colitis, 47.6% were diagnosed with axSpA. The diagnosis of axSpA was established in 45.7%, 61.6%, and 40.2% of patients with psoriasis, AAU, and IBD, respectively. The performance of the ASAS-modification of the Berlin algorithm was superior to the original algorithm as reported previously³, primarily for enhanced sensitivity, and this was observed irrespective of the criteria used to define IBP (Table 1). Conversely, the performance of the Duet algorithm in the subset of patients with AAU was substantially worse than previously reported¹.

Conclusion: The ASAS modification of the Berlin algorithm is the preferred referral strategy for patients presenting with undiagnosed back pain to the rheumatologist.

References:

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Algorithm	Sensitivity (%)	Specificity (%)	Correct diagnosis (%)	False negative (%)	False positive (%)
Original Berlin	65.3	76.6	71.1	16.7	12.2
(ASAS criteria for IBP)					
Original Berlin	64.4	76.6	70.7	17.1	12.2
(Berlin criteria for IBP)					
Original Berlin	67.8	78.1	73.2	15.4	11.4
(IBP global >5)					
ASAS Modification of Berlin algorithm (ASAS criteria for IBP)	73.7	75.8	74.8	12.6	12.6
ASAS Modification of Berlin algorithm (Berlin criteria for IBP)	73.7	75.0	74.4	12.6	13.0
ASAS Modification of Berlin algorithm (IBP global >5)	76.3	77.3	76.8	11.4	11.8
DUET	84.4	50.0	71.2	9.6	19.2

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FRI0299

EVALUATION OF ENTHESITIS INDICES AND RESPONSE TO BDARD THERAPY IN PORTUGUESE PATIENTS WITH SPONDYLOARTHRITIS

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Background: Enthesitis is a hallmark clinical feature of spondyloarthritis (SpA), but to date, few studies have investigated how the overall response to biological treatment relates to the evolution of enthesitis counts.

Objectives: Assess whether the variation in enthesitis indices reflects the overall response to bDMARD therapy in SpA.

Methods: This longitudinal, retrospective study included patients who met Assessment of Spondyloarthritis international Society (ASAS) criteria for SpA followed at the Rheumatology Department of a tertiary hospital, under bDMARD therapy. Demographic, laboratorial and clinical data were collected, including Bath Ankylosing Spondylitis Metrology Index (BASMI), Bath Ankylosing Spondylitis Functional Index (BASFI), Bath Ankylosing Spondylitis Activity Index (BASDAI), Ankylosing Spondylitis Disease Activity Score-C-reactive protein (ASDAS-CRP), Maastricht Ankylosing Spondylitis Enthesitis Score (MASES), Leeds Enthesitis Index (LEI) and Spondyloarthritis Research Consortium of Canada (SPARCC) scores. All were evaluated at baseline and at 6, 12, 18 and 24 months after starting the first biological therapy. The variation in each parameter compared with the baseline values was calculated at 6, 12, 18 and 24 months and represented in the form of delta. Correlations between variables were assessed using Spearman test and comparison between groups using Wilcoxon, Mann-Whitney U and Kruskal-Wallis tests.

Results: We included 273 patients, 123 (45,1%) females, aged 42.0 ± 12.3 years and with diagnosis of SpA for 15.4 ± 11.2 years at the start of bDMARD therapy. Eighteen (6,6%) had depression. At baseline, mean BASDAI was 6.43 ± 1.62 , ASDAS-CRP was 4.01 ± 0.86 , median MASES was 1 (0-4), LEI 0 (0-1,75) and SPARCC 1 (0-4). Seventy-two patients (26,4%) started golimumab, 71 (26,0%) adalimumab, 66 (24,2%) infliximab, 54 (19,8%) etanercept, 9 (3,3%) certolizumab and 1 (0,4%) secukinumab. Enthesitis indices were significantly higher at baseline in females [median MASES-females 2 (0-5) vs 0 (0-2), $p < 0.001$; LEI-females 0 (0-2) vs 0 (0-1), $p = 0.03$; and SPARCC-females 2 (0-5) vs 0 (0-2), $p < 0.001$], and remained so at 24 months [median MASES-females 1 (0-3,5) vs 0 (0-0), $p < 0.001$; LEI-females 0 (0-0,5) vs 0 (0-0), $p < 0.001$; and SPARCC-females 1 (0-3) vs 0 (0-0), $p < 0.001$]. MASES and SPARCC, but not LEI, at baseline were significantly higher in patients with depression [median MASES-depression 3,5 (2-6) vs 1 (0-4), $p = 0.01$; SPARCC-depression 4 (0-8) vs 1 (0-3), $p = 0.03$], but at 24 months no differences were observed. There was a significant difference between each of the 3 scores of enthesitis when assessed at 6, 12, 18 and 24 months, compared to baseline ($p < 0.004$). No differences were observed regarding the choice of bDMARD. At baseline, MASES had a significant correlation with patient visual analogic scale (VAS) ($r = 0.18$; $p = 0.01$), BASDAI ($r = 0.36$; $p < 0.001$) and BASFI ($r = 0.21$; $p = 0.003$); LEI had a significant correlation with BASDAI ($r = 0.31$; $p < 0.001$) and BASFI ($r = 0.21$; $p = 0.003$); SPARCC had a significant correlation with patient VAS ($r = 0.19$; $p = 0.01$), BASDAI ($r = 0.37$; $p < 0.001$) and BASFI ($r = 0.26$; $p < 0.001$). Δ LEI at 6 months had a significant correlation with Δ BASDAI ($r = 0.25$; $p = 0.005$), Δ ASDAS ($r = 0.190$; $p = 0.03$), Δ patient VAS ($r = 0.23$; $p = 0.01$) and Δ physician VAS ($r = 0.25$; $p = 0.01$), but not with Δ ESR, Δ CRP and Δ BASMI; no correlation was found at 6 months for Δ MASES or Δ SPARCC. At 12 months, Δ MASES had a significant correlation with Δ BASDAI ($r = 0.18$; $p = 0.03$); Δ LEI with Δ BASDAI ($r = 0.23$; $p = 0.01$) and Δ patient VAS ($r = 0.19$; $p = 0.03$); for Δ SPARCC no significant correlations were found. At 18 months and 24 months, no correlations were found.

Conclusion: The initiation of bDMARD led to improved enthesitis indices over a 24-month period. Δ LEI correlates better with SpA activity scores and measurements than the other indices, especially at the first 12 months of initiation of bDMARD therapy.

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FRI0300

ARE COPING STRATEGIES, ANXIETY AND DEPRESSION ASSOCIATED WITH DAILY PHYSICAL ACTIVITY IN PATIENTS WITH AXIAL SPONDYLOARTHRITIS?

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Background: Patients with axial spondyloarthritis (axSpA) who are more physically active experience less pain and better physical functioning.¹ Psychological factors such as anxiety and depression are associated with physical functioning and reduction of Quality of Life (QoL).² Furthermore, evasive coping strategies are commonly used in health-related coping.³ However, as far as we know, no data is available regarding the influence of coping strategies, anxiety and depression on daily physical activity in axSpA.

Objectives: To determine if coping strategies, anxiety and depression are associated with daily physical activity in patients with axSpA.

Methods: Consecutive outpatients from the Groningen Leeuwarden AxSpA cohort (GLAS) participated in this study. Additionally to the standardized follow-up assessments, patients filled out the axSpA-Short Questionnaire to assess health-enhancing physical activity (axSpA-SQUASH), the Coping with Rheumatic Stressors (CORS) and the Hospital Anxiety and Depression Scale (HADS). Univariable and multivariable linear regression analyses were performed to explore associations of coping strategies, anxiety and depression, and patient- and disease related factors with daily physical activity. Additionally, patients were stratified into three tertiles of physical activity: low, intermediate and high. To identify group differences, Kruskal-Wallis test or Chi-Square test were used with post-hoc testing.

Results: In total 85 patients were included; 59% were male, mean age was 49 ± 14 , median symptom duration 19.5 years (IQR 12.0-31.0), 71% were HLA-B27 positive and mean ASDAS was 2.1 ± 1.0 . Median axSpA-SQUASH total physical activity score was 9406.3 (IQR 5538.8–12081.3). Median scores of HADS-Anxiety (scale 7-28) and HADS-Depression (scale 7-28) were scores of 12 (IQR 10.0-14.0) and 10 (IQR 9.0-12.5). The mostly frequently used coping strategy was comforting cognitions (for pain, range 9-36; median of 25.5 (IQR 22.0-28.0)).

Univariable analysis showed that lower daily physical activity was significantly associated with gender (female), higher disease activity (BASDAI), worse physical function (BASFI), worse quality of life (ASQoL), coping strategies 'decreasing activities' and 'pacing', higher depression score (HADS) and higher perceived influence of axSpA on general well-being. In multivariable analysis, only the coping strategy "decreasing activity" was independently associated with physical activity (β : -419.3, R^2 : 0.155, $P < 0.001$). Additionally, patients in the highest physical activity tertile were significantly more often male, had higher working status, lower BASDAI and ASDAS, better BASFI and ASQoL and scored lower on the coping strategy "decreasing activities".

Conclusion: In this cross-sectional study in axSpA patients with established disease, multiple patient and disease related factors were associated with daily physical activity. The evasive coping strategy 'decreasing activities' was the only independently associated factor. These findings suggest that to improve daily physical activity in axSpA patients attention should be paid not only on targeting disease activity, but also to other patient and disease related aspects, especially coping strategies used.

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