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SAT0294 ASSOCIATION OF ENTHESITIS WITH ACHIEVEMENT OF NORMAL QUALITY OF LIFE AND CLINICAL RESPONSE IN PATIENTS WITH NON-RADIOGRAPHIC AXIAL SPONDYLOARTHRITIS TREATED WITH ADALIMUMAB

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Background: Enthesitis, a key pathology in axial spondyloarthritis (axSpA), has been difficult to treat with conventional therapies and may take longer to resolve than other disease manifestations. It is unknown if failure to attain resolution of enthesitis affects achievement of normal quality of life (QoL) and clinical response.

Objectives: To assess if enthesitis at baseline (BL) and after 12 wks of adalimumab (ADA) treatment in the ABILITY-3 study associates with achieving normal QoL and clinical response in patients (pts) with non-radiographic axSpA (nr-axSpA).

Methods: ABILITY-3 enrolled adult pts with nr-axSpA with objective evidence of inflammation (MRI positive or elevated hsCRP), active disease at BL (ASDAS ≥ 2.1 , BASDAI ≥ 4 , and Patient's Assessment of Total Back Pain score ≥ 4), and an inadequate response to ≥ 2 NSAIDs. Pts received ADA 40 mg every other wk during a 28-wk open-label lead-in. Pearson's correlation coefficients were used to assess the relationship between total enthesitis count (sum of Maastricht Ankylosing Spondylitis Enthesitis Score [MASES] and plantar fascia enthesitis score) and QoL and disease activity at BL. Multivariable stepwise logistic regression was used to evaluate the relationship between total enthesitis count or enthesitis location and normal QoL (EQ-5D ≥ 0.898 or SF36 MCS/PCS ≥ 50) and clinical response (ASDAS-ID [ASDAS < 1.3], ASAS40, or BASDAI50) at wk 12.

Results: At BL, 74% (501/673) of pts had enthesitis, and mean (95% CI) total enthesitis count was 3.7 (3.42, 3.98). Enthesitis resolved in 39% (196/501) of pts, and total enthesitis count was 1.9 (1.68, 2.12) at wk 12 of ADA treatment. At BL, total enthesitis count significantly correlated with all QoL and disease activity measures (Table). Each 1-unit increase in BL total enthesitis count was associated with 7% lower odds of ASDAS-ID (OR [95% CI]: 0.93 [0.88, 0.99], $p=0.018$) and 6% lower odds of BASDAI50 (0.94 [0.89, 0.99], $p=0.024$) at wk 12 and was not associated with normal QoL or ASAS40 at wk 12. Total enthesitis count at wk 12 was associated with lower odds of normal QoL and clinical response at wk 12 (Table). Achievement of normal QoL at wk 12 was less likely if pts had BL enthesitis at the posterior (EQ-5D ≥ 0.898) or anterior superior iliac spine (SF36 PCS ≥ 50), and pts with BL enthesitis at the 7th costochondral joint were less likely to achieve clinical response at wk 12 (Table).

Abstract SAT0294 – Table 1. Association of Total Enthesitis Count With QoL and Disease Activity at BL and Clinical Response at Wk 12

Baseline			
Measure	n	Pearson Correlation Coefficient	
EQ-5D	672	-0.23*	
SF-36 PCS	672	-0.18*	
SF-36 MCS	672	-0.15*	
BASDAI50	673	0.27*	
ASDAS	673	0.18 [†]	
Patient Global Assessment	673	0.14*	
Physician Global Assessment	671	0.17*	
Wk 12			
Measure	n	Odds Ratio (95% CI)	
EQ-5D ≥ 0.898	658	0.62 (0.48, 0.78)*	
SF-36 PCS ≥ 50	658	0.70 (0.61, 0.81)*	
SF-36 MCS ≥ 50	658	0.85 (0.80, 0.91)*	
ASDAS-ID	628	0.82 (0.75, 0.91)*	
ASAS40	632	0.82 (0.76, 0.88)*	
BASDAI50	632	0.74 (0.69, 0.81)*	
Enthesitis Location at baseline			
Measure at wk 12	n	Location	Odds Ratio (95% CI)
EQ-5D ≥ 0.898	660	Posterior superior iliac spine L/R	0.58 (0.34, 0.99) [‡]
SF-36 PCS ≥ 50	660	Anterior superior iliac spine L/R	0.60 (0.37, 0.96) [‡]
SF-36 MCS ≥ 50	663	—	—
ASDAS-ID	630	7th costochondral joint L/R	0.57 (0.36, 0.91) [‡]
ASAS40	637	7th costochondral joint L/R	0.62 (0.42, 0.91) [‡]
BASDAI50	634	7th costochondral joint L/R	0.60 (0.40, 0.91) [‡]

Locations evaluated included 1st costochondral joint L/R, 7th costochondral joint L/R, anterior superior iliac spine L/R, posterior superior iliac spine L/R, iliac crest L/R, 5th lumbar spinous process, proximal insertion of Achilles tendon L/R, and plantar fascia L/R. ASAS40, Assessment of SpondyloArthritis international Society 40% improvement; ASDAS-ID, Assessment of SpondyloArthritis international Society inactive disease; BASDAI, Bath Ankylosing Spondylitis Disease Activity Index; EQ-5D, EuroQol 5 dimension; MCS, mental component summary; PCS, physical component summary; QoL, quality of life; SF-36, short form health survey.

* $P<0.001$; † $P<0.01$; ‡ $P<0.05$.

Conclusions: 39% of pts achieved complete resolution of enthesitis after 12 wks of ADA treatment. Total enthesitis count at BL was not associated with normal QoL and inversely associated with clinical response at wk 12. Total enthesitis count at wk 12 was negatively associated with normal QoL and clinical response. Our exploratory analysis suggested possible inverse associations of specific BL enthesitis sites with achievement of normal QoL and clinical response; however, additional research is needed to further define these relationships.

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SAT0295 TOOL FOR THE PRESCRIPTION OF EXERCISE IN SPONDYLOARTHRITIS WITH MULTIMEDIA ANIMATIONS (EJES-3D): PILOT STUDY

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Background: Exercise is a basic pillar in the management of axial spondyloarthritis (SpA-axe), together with pharmacological treatment^{1,2}. Since it has been shown to improve pain, inflammation, mobility, physical and respiratory function. The information provided to the patient on paper on exercises has limitations of understanding. To this must be added the barriers to exercise that patients perceive, such as the lack of adaptation of the exercises according to the SpA phases

and the contradictory messages among professionals. Therefore we decided to develop an electronic tool to facilitate and encourage the prescription of exercise.

Objectives: To evaluate the usefulness of a computer tool and a training workshop to improve the prescription of physical exercise in SpA by rheumatologists.

Methods: An online platform was developed for the individualised prescription of exercise to patients with SpA according to stage and with 3D animations (EJES-3D), which was presented in a training workshop. Tests were conducted before and after the workshop to assess the change in knowledge. Six months after the workshop, the degree of use and acceptance of the tool was evaluated through a survey aimed at rheumatologists and the fulfilment of the concepts learned through a survey of 100 consecutive patients attended in the centres of the attendees.

Results: The level of knowledge improved with the workshop (6.8/10 to 7.7). After 6 months 77.8% indicated that the contents of the workshop were useful and adapted to their expectations and all applied the knowledge. 22% stated that they prescribed exercise more regularly and 44% with greater confidence. 67% of rheumatologists considered the tool EJES-3D useful. The 82 patients who completed the survey agreed in their majority that they had been prescribed exercise, they had been informed and the messages received had been positive and coherent. 50% of the patients were prescribed specific exercises, which were qualified by them as simple, adaptable and attractive. And 64% were satisfied with the degree of exercise they performed. On the other hand, aspects to be improved at the tool and training level were identified.

Conclusions: The specialised training in the prescription of the exercise directed to the professionals who are in charge of the management of patients with SpA can be very beneficial to homogenise the type of exercise in each phase of the disease and help to gain confidence. In addition to having a specific tool (EJES-3D) to perform individualised prescription, it can be very useful.

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SAT0296

PATIENTS WITH DIFFUSE IDIOPATHIC SKELETAL HYPEROSTOSIS AND LOW BACK PAIN – EVALUATION AND REHABILITATION

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Background: Diffuse Idiopathic Skeletal Hyperostosis (DISH) generally occurs in people between the ages of 50 and 60, more often in men than women. Physical therapy and kinetic program may help delay the loss of motion in affected joints and control the low back pain (LBP). In most cases of DISH with LBP, certain muscles of the back that stabilise the spine are reflexively inhibited and do not spontaneously recover even if patients are pain free with a return to normal activity levels.

Objectives: In our observational study we evaluated the role of rehabilitation program in quality of life and assessed the thickness of the erector spinae (ES) muscle in these patients and to evaluate the correlation between thickness difference in three different trunk postures and functional parameters.

Methods: 38 male patients (61.5 years mean age) with DISH and LBP were enrolled in this study. Frontal (AP) and lateral lumbosacral regions were radiologically evaluated. Clinical and functional parameters were collected by a physiotherapist, that applied rehabilitation program (12 sessions of TENS, interferential current, ultrasound, aerobic training) and an US examination was performed by a physiatrist within 72 hours of the clinical examination. We performed ultrasonography to measure the thickness of the ES muscle at L4 and L5 level in maximum flexion, neutral posture, and maximum extension. All collected clinical and imaging data were statistical analysed, pre-post rehabilitation.

Results: Multivariate analysis showed that thickness differences between flexed and neutral, and flexed and extended maximally positions were correlated statistically with functional parameters (VAS and The Roland-Morris Disability Questionnaire score). We obtained a significant improvement in VAS ($p<0.01$) and Disability Questionnaire score ($p<0.05$) after supervised rehabilitation program.

Conclusions: Although ossification in DISH generally affects the ligament of the spine, pain is more likely to arise in correlation with the erector vertebral muscle status. Visual observation of the image during contraction indicates that US may

be a valuable biofeedback tool. Kinetic program (regular exercises that strengthen spine, walking and global stretching), avoiding sitting position for long periods of time, sleep on a correct mattress and optimal daily activities are the most important recommendations for all patients with DISH.

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SAT0297

THE ROLE OF BASELINE CONCOMITANT USE OF CONVENTIONAL SYNTHETIC DISEASE MODIFYING ANTI-RHEUMATIC DRUGS WITH TNF INHIBITORS IN SPONDYLOARTHRITIS PATIENTS

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Background: Conventional synthetic disease modifying anti-rheumatic drugs (csDMARDs) are drugs of choice in the treatment of rheumatoid arthritis and their concomitant use with TNFi is also of unequivocal importance. On the other hand there is limited evidence regarding the efficacy of csDMARD in axial spondyloarthritis (SpA) and concomitant use with TNFi are not recommended. However recently there is conflicting results about the comedication with csDMARD on the TNFi drug survival in patients with AS.

Objectives: To evaluate the effect of concomitant csDMARD use on first TNFi drug survival in patients with spondyloarthritis.

Methods: The data of patients that have been included in two Turkish registries (TURKBIO (n=356) and TReasure (n=1382)) with the diagnosis of ankylosing spondylitis (AS) or SpA obtained. Drug survival was calculated from the date of first TNFi prescription to the last visit or until the stop date of first biologic agent. For drug survival analysis Kaplan-Meier method with log-rank test. Cox proportional hazard method was used to evaluate the relative effects of each covariate on the drug survival.

Results: In total 1738 patients (1040 [59.1%] male, median [range] age 39^{16–81} years) with SpA initiating first TNFi were included in the analysis. Median disease duration was 116 months. 690 (39.7%) patients received adalimumab, 387 (22.3%) etanercept, 324 (18.6%) infliximab, 202 (11.6%) golimumab and 135 (7.8%) certolizumab. At the time of first biologic prescription 794 (45.7%) were using sulfasalazine or methotrexate. Baseline median BASDAI score was 60 (0–100), BASFI score was 46 (0–100), patient global assessment of disease activity was 70 (0–100), ESR was 23^{1–140} mm/h and median CRP value was 13 (0–659) mg/L. In our study group median drug survival time was 12 (0–205) months. In total 585 (33.7%) of our patients stop their first TNFi. 323 (55.2) patients discontinued the medication due to inefficacy, 133 (22.7) due to adverse effect. Drug survival was significantly better in patients using concomitant csDMARDs at baseline (with a median survival 104 vs 30 months; $p<0.001$; figure). In Cox regression model baseline age (HR 0.978, $p=0.028$), and concomitant csDMARD usage (HR 0.341, $p<0.001$) were found to be as the predictors for better drug survival, female sex (HR 1.546, $p=0.039$), presence of psoriasis (HR 3.803, $p=0.015$), enthesitis