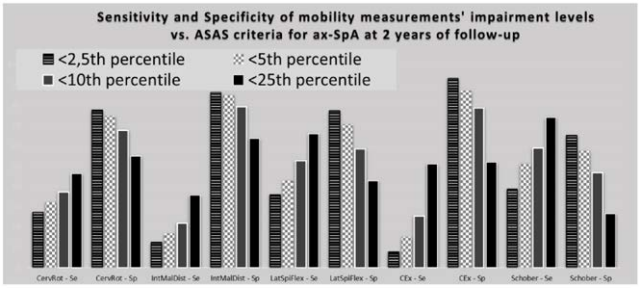
whether mobility impairment might really increase diagnostic likelihood, and which of the measurements made have relevant diagnostic value remains unknown.

Objectives: To describe the frequency and severity of mobility impairment in multiple traditional measurements in patients suspect of early ax-SpA at initial assessment time, and to analyze their individual diagnostic performances in reference to usual classification criteria applied after 2 years of follow-up.

Methods: Data from the DESIR cohort, which included patients aged 18-50 with inflammatory back pain lasting for 3 months to 3 years and a clinical suspicion of ax-SpA diagnosis were used. Baseline measurements of Schober's test (Schober), chest expansion (CEx), lateral spinal flexion (LatSpiFlex), cervical rotation (CervRot) and intermalleolar distance (IntMalDist) collected at baseline were classified according to reference data from the general population adjusted for age and -when appropriate- for height. Cutoffs were defined as above 2.5th, 5th, 10th and 25th percentiles. With ASAS classification for ax-SpA applied at 2 years follow-up visit as external reference, diagnostic performances (Sensitivity [Se], Specificity [Sp], Positive [PPV] and Negative [NPV] Predictive Values) were calculated.

Results: Complete data were available for 575 patients (of whom 377 (66%) fulfilled the ASAS criteria at 2 years). Schober, CEx, LatSpiFlex, CervRot and IntMalDist were above 5th percentile in respectively 278 (48%), 82 (14%), 220 (38%) and 93 (16%) patients. None of the measurements showed a clinically relevant compromise between both Se and Sp, but Sp was highest for CEx-most impaired cutoffs (Figure 1). The highest PPV (73.6%) and NPV (39.4%) were observed for LatSpiFlex.



Conclusion: Measures of mobility and their levels of impairment do not show sufficient individual diagnostic value for ax-SpA among patients with early inflammatory back pain. However, highest degrees of impairment when compared to general population are more specifically observed in patients finally classified with ax-SpA for CEx, which was –consistently- 1 of the 2 mobility measures that was retained in the modified New York criteria for ankylosing spondylitis.

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AB0494 COGNITIVE IMPAIRMENT IN AXIAL SPONDYLOARTHRITIS?

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Background: There is some evidence that neuropsychiatric changes occur in systemic lupus(1) and rheumatoid arthritis(2). However, little is known regarding a possible disease-related impairment of cognitive abilities in axial spondyloarthritis (axSpA).

Objectives: To evaluate patients with axSpA regarding cognitive impairments.

Methods: Patients with axSpA attending two rheumatology practices were routinely evaluated by rheumatologists and underwent a computer-based memory and attention test (MAT) (3, 4) with subscale scores ranging from 0 (worst) to 15 (best). The results of short-term memory and working memory were compared to an age-, sex- and education-matched control group of healthy subjects. Descriptive results are presented as median (IQR) for interval data and n (%) for nominal data if not stated otherwise. Two-tailed Wilcoxon signed-rank tests including Bonferroni-Holm adjustment for multiple tests were conducted to investigate the magnitude of potential differences in cognitive abilities.

Results: 101 consecutive patients were tested (Table 1). After multiple testing adjustment for two subscales, Wilcoxon signed-rank tests returned significant findings for working memory (V = 539.5, p = 0.006, |r| = 0.204) but not for short-term memory (V = 1075, p = 0.351, |r| = 0.078). Regarding the scales' anchors, descriptive results on pairwise differences suggested axSpA patients to have working memory scores that are on average 10.7% lower compared to control participants (mean Δ= -1.64, SD Δ= 5.95).

Table 1. Patients and disease characteristics

	n	%	Mean	SD	Median	25% Quantile	75% Quantile
Age	101	100	51.1	11.6	52	42	60
Age (female)	48	47.5	52.6	11.7	54	44.5	61
Age (male)	53	52.5	49.8	11.5	51	41	57
< 13 years formal education	47	46.5					
≥ 13 years formal education	54	53.5					
HLA B27 positive n/N	64/92	63.4					
Disease duration (years)	101	100	13.7	11.7	12	4	21
Disease duration (female, years)	48	47.5	11.6	9.9	9	4	17.2
Disease duration (male, years)	53	52.5	15.5	12.9	15	5	23
BASDAI	92	91.1	3.7	1.7	3.8	2.4	5
BASFI	91	90.1	3	2.4	2.3	1.2	4.5
BASMI	75	74.3	1.9	2.3	1	0	3
ASDAS	98	97	2.3	0.8	2.3	1.8	2.8

Conclusion: The MAT computerized testing is a feasible test and was well accepted by patients. Results regarding working memory suggest that cognitive abilities needed to accomplish everyday tasks may be impaired in axSpA patients. Further work is needed to characterise possible causes of or associations with this cognitive impairment.

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Roche, Pharma, JanssenCilag, Novartis, Abbvie, Consultant of: JanssenCilag, Patrizia Sternad: None declared., Florian Popp: None declared., Peter Bartz-Bazzanella: None declared., Cay-Benedict von der Decken: None declared., Kirsten Karberg Speakers bureau: Roche, Sanofi, Abbvie, Lilly, Georg Gauler Speakers bureau: Abbvie, Gilead, Novartis, Lilly, Consultant of: Lilly, Gilead, Abbvie, Patrick Wurth Speakers bureau: Abbvie, Lilly, UCB, Medac, Susanna Spaethling-Mestekemper Speakers bureau: Abbvie, BMS, Celgene, Gilead, GSK, Hexal, Lilly, MSD, Novartis, Pfizer, Sanofi, UCB, Christoph Kuhn: None declared., Matthias Englbrecht Speakers bureau: AbbVie, Chugai, Eli Lilly, Novartis, Roche, Sanofi, Mundipharma, Paid instructor for: AbbVie, Chugai, Roche, Consultant of: AbbVie, Novartis, Roche, Sanofi, Grant/research support from: Roche, Chugai, Wolfgang Vorbrüggen: None declared., Georg Adler: None declared., Martin Welcker Speakers bureau: Abbvie, Actelion, Amgen, Biogen,BMS, Berlin Chemie, Celgene, Galapagos, Gilead, GSK, Hexal, Janssen, Medac, MSD, Mundipharma, Mylan, Novartis, Pfizer, Roche, Sanofi, SOBI, UCB, Grant/research support from: Novartis, Abbvie.

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AB0495 BIOMECHANICAL STRESS IN THE CONTEXT OF COMPETITIVE SPORTS TRAINING TRIGGERS ENTHESITIS

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Background: Preclinical models have indicated that biomechanical stress can trigger entheseal inflammation (1). Furthermore, enthesitis is a hallmark of psoriatic arthritis (PsA) and spondyloarthritis (SpA), suggesting that mechanoinflammation is an important step in their pathogenesis (2). However, the relation between mechanical stress and enthesitis in humans is poorly investigated. Competitive badminton is a demanding stop-and-go sport that strains entheseal sites in particular and provides an opportunity to assess the impact of physical activity on the development of an instant inflammatory response in the entheses.

Objectives: To evaluate the influence of mechanical stress on the development of immediate enthesitis.

Methods: BEAT (Badminton Enthesitis Arthrosonography Study) is an interventional study that assessed entheses in competitive badminton players before and immediately after a 60-minute intensive training session by ultrasound. Power Doppler (PD) signal and Gray-Scale (GS) changes were evaluated at the insertions sites of both Achilles tendon, patellar tendons and lateral humeral epicondyles and quantified using a validated scoring system (3). Pre- and post-training scores were compared using linear mixed-effects models. We used interaction terms to assess possible differential effects on patellar, elbow and Achilles entheses.

Results: Thirty-two badminton players (22 men, 10 women) with an average age of 31.1±13.0 years were included (Table 1). On average, they had been playing badminton for 16.2±10.1 years. 192 entheseal sites were examined twice. The respective empirical total scores for PD examination were 0.1 (0.3) before and 0.5 (0.9) after training (Figure 1). Mean total GS scores were 2.9 (2.5) and 3.1 (2.5) before and after training, respectively. The mean total PD score difference of 0.4 between pre- and post -training was significant with a p value of 0.0014, whereas the p value for the mean total GS score difference of 0.2 was 0.63. Overall, seven participants (22%) showed an increased empirical total PD score. A mixed-effects model showed a significant increase of PD scores after training, with a mean increase per site of 0.06 (95%CI 0.01 to 0.12, p=0.017).

Table 1. Baseline characteristics

Demographic characteristics	
N, total	32
Females, N (%)	10 (31.3)
Age, years (mean ± SD)	36.1 ± 13.0
Height, cm (mean value ± SD)	178.6 ± 9.9
Body weight, kg (mean value ± SD)	74.7 ± 13.5
Smoking, N (%)	11 (34.4)
Alcohol, N (%)	24 (75.0)
Concomitant Diseases	
Inflammatory bowel disease, N (%)	0
Psoriasis, N (%)	0
Uveitis, N (%)	0
Diabetes mellitus, N (%)	0
Hypertension, N (%)	2 (6.3)
Sports history	
Years Badminton (mean ± SD)	16.2 ± 10.1

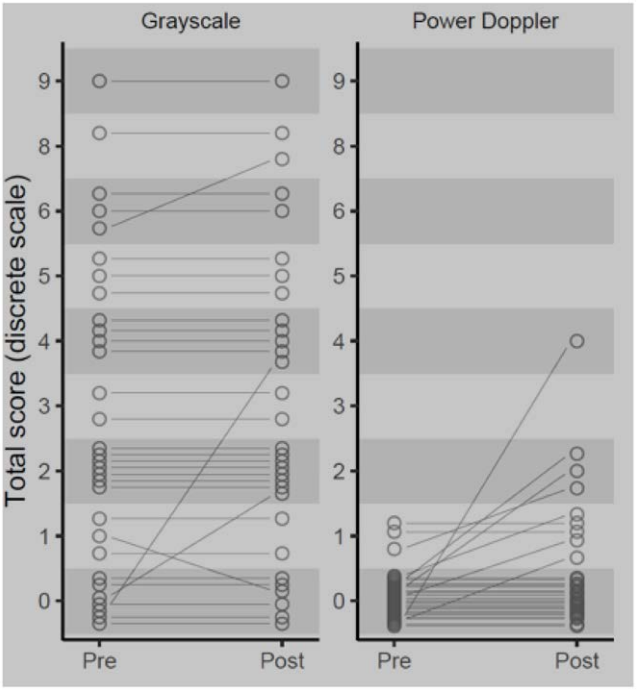

Figure 1. Ultrasound scores before and after trainingFigure 1. A Spaghetti plots depicting individual Gray-Scale and Power Doppler ultrasound scores before and after training

Conclusion: Mechanical stress leads to rapid inflammatory responses in the entheseal structures of humans. These data support the concept of mechanoinflammation in diseases associated with enthesitis. However, while such responses may be self-contained in healthy subjects, they may be prolonged and more pronounced in certain risk groups, such as patients with PsA or SpA.

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AB0496 COMPARISON OF THE DISTRIBUTION BY DEPARTMENT OF THE PREVALENCE OF SPONDYLOARTHRITIS AND INFLAMMATORY BOWEL DISEASES IN METROPOLITAN FRANCE AND THEIR EVOLUTION BETWEEN 2008 AND 2018

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Background: Epidemiology of spondyloarthritis (SpA) has been rarely described in France. One study based on a phone survey found a prevalence of 0.30% in 2001 [1], and another study based on a national cohort showed an estimated prevalence of 0.43% in 2010 [2]. To our knowledge, there is no data regarding the geographical distribution of SpA in France. Furthermore, it is known that SpA occurs in up to 13% of patients with inflammatory bowel disease (IBD), and that there is a significant north-south gradient in IBD cases in France.

Objectives: To determine the prevalence of SpA and IBD in metropolitan France and compare the geographical distribution of SpA and IBD in 2008 and 2018.