

Index (BASMI), pain visual analog scale, Beck depression scale, Beck anxiety scale, Barrat impulsiveness scale, Toronto alexithymia scale, Eating attitude test, fatigue, Ankylosing spondylitis quality of life, and Nottingham health profile were administered.

**Results:** The frequency of depression, anxiety and non planning impulsiveness were higher in patients with AS than in healthy controls ( $p < 0.05$ ), although no difference was found in terms of alexithymia, fatigue, and eating attitude. Depression and anxiety were correlated with high disease activity, fatigue, impaired physical functioning, and lower quality of life in the patients with AS. Non planning impulsiveness was correlated with fatigue and lower quality of life while there was no correlation with disease activity and functional impairment. BASMI scores were not associated with psychiatric disorders.

Table 1. Demographic characteristics and Psychiatric disorders in Ankylosing spondylitis and healthy controls

	Ankylosing spondylitis patients (n=70)	Healthy controls (n=56)	p
Age (year)	42.85±10.46	44.75±10.04	0.363
Male (%)	57.14%	51.78%	0.548
Beck depression score	13.88±8.99	9.78±8.34	0.006*
Beck anxiety score	14.58±10.02	10.53±8.99	0.014*
Barrat impulsiveness - attentional score	15.68±3.25	15.21±2.72	0.590
Barrat impulsiveness - motor score	19.62±4.28	18.92±4.23	0.301
Barrat impulsiveness - non planning score	26.00±4.57	24.78±3.77	0.021*
Toronto alexithymia score	54.84±12.86	54.32±11.12	0.644
Eating attitude score	21.74±11.18	22.01±13.24	0.488

\* $P < 0.05$ .

**Conclusions:** Depression and anxiety were associated with disease activation, while impulsivity frequency was increased independently of disease activity. Reducing in the quality of life and functional competence due to the psychiatric disorders indicates that AS patients may require a psychological care approach during the follow up.

#### References:

- [1] Anxiety and depression correlate with disease and quality-of-life parameters in Chinese patients with ankylosing spondylitis. Xu X, Shen B, Zhang A, Liu J, Da Z, Liu H, Gu Z. Patient Prefer Adherence (2016) 20;10:879–85. doi: 10.2147/PPA.S86612.
- [2] Relationship between psychiatric status, self-reported outcome measures, and clinical parameters in axial spondyloarthritis. Kilic G, Kilic E, Ozcogmen S. Medicine (Baltimore) (2014) doi: 10.1097/MD.0000000000000337.

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#### FRI0440 PRESENCE OF BONE MARROW EDEMA ON MAGNETIC RESONANCE IMAGING OF THE SACROILIAC JOINTS IN MILITARY RECRUITS BEFORE AND AFTER 6 WEEKS OF INTENSIVE PHYSICAL TRAINING

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**Background:** Studies have shown an increase of bone marrow edema (BME) on magnetic resonance imaging (MRI), especially in feet and ankles of professional athletes and in minimally active healthy controls after mechanical stress [1]. Although this has been described for several joints and across different sport activities, information concerning BME in the sacroiliac joints (SIJ) has not been studied. In axial spondyloarthritis (AxSpA), the presence of 1 BME lesion (characteristics typical for AxSpA) on 2 consecutive slices or 2 BME lesions on 1 slice is sufficient to fulfill the definition of a positive MRI as defined by ASAS. Although this definition should only be applied on MRI of symptomatic patients with suspicion of SpA, it is unknown whether BME lesions in healthy controls could meet this definition and therefore incorrectly be interpreted as BME in the context of SpA.

**Objectives:** Study the effect of intense physical training in healthy subjects on the presence of BME on MRI-SIJ, by investigating whether healthy subjects meet the ASAS definition of a positive MRI and whether this is modulated by mechanical stress.

**Methods:** Twenty-two military recruits underwent a MRI-SIJ before and after 6 week of intense and uniform physical training. BME lesions were scored by 3 trained readers (MdH, GV and TR) blinded for time sequence and clinical findings. Additionally, the agreement with the definition of a positive MRI defined by ASAS was evaluated. Regarding the number of lesions and fulfillment of the ASAS definition of positive MRI, a consensus was made by agreement of 2 out of 3 readers.

**Results:** In total, 86.4% (19/22) asymptomatic recruits were male (mean age of 25.0±0.8 years). At baseline, 40.9% (9/22) of recruits presented with at least one BME lesion, whereas this number increased to 50.0% (11/22) at week 6. Indeed, 3 recruits developed BME over time, whereas in one recruit the BME lesions disappeared over time. The mean number of BME lesions was 1.0 (±0.3) at baseline, compared to 1.9 (±0.7) at week 6. Median (25th, 75th percentile) BME lesions were 0.0 (0.0, 2.25) and 0.5 (0.0, 3.0) at respectively baseline and week

6 ( $P=0.109$ ). Mean change in BME lesions was 0.9 (±0.6). When applying the ASAS definition of a positive MRI, BME was present in 22.7% (5/22) of recruits at baseline, and this increased to 36.4% at follow up, of which an additional 4 initially MRI negative recruits became MRI positive and one recruit no longer fulfilled the definition.

**Conclusions:** In this small exploratory study we could not find a statistically significant difference in BME on MRI-SIJ after 6 weeks of training. However, over 1/5 of asymptomatic recruits displayed BME lesions, that would meet the ASAS definition of a positive MRI, increasing to more than 1/3 at follow up. Thus, in young active patients, the interpretation of BME lesions should be cautious.

#### References:

- [1] Kornaat PR, Van de Velde SK. Bone marrow edema lesions in the professional runner. The American journal of sports medicine 2014;42(5):1242–6.

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#### FRI0441 NECK PAIN IN ANKYLOSING SPONDYLITIS: FOCUS ON ACTIVE INFLAMMATION AT THE CRANIOCERVICAL JUNCTION ON MRI

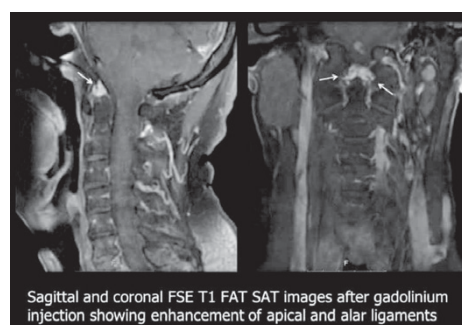
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**Background:** A wide spectrum of structural changes in the elements of craniocervical junction in patients with ankylosing spondylitis (AS) has been recently described in a retrospective study using computed tomography [1]. The clinical significance of these findings requires further elaboration.

**Objectives:** To explore and describe inflammatory MR imaging findings in the craniocervical junction in patients with AS and neck pain.

**Methods:** Eighteen patients with AS and continuing neck pain, as well as 9 patients with fibromyalgia of the same age and similar level of severity of neck pain, who served as a control group, underwent relevant rheumatologic examination, X-ray of cervical spine and MRI study, which included STIR, CUBE T2, FSE and FSE FAT SAT sequences before and after administration of gadolinium.

**Results:** In the AS group, 12 males and 6 females diagnosed by 1984 New York criteria, of median age 40.5 years (range 31–61 years) and median disease duration of 8 (range 1–35) years, with 13 under treatment with anti-TNF agents were studied. All patients suffered from neck pain, with median VAS of 7 (range 2.5–10). Range of neck spine motion was limited in all but 3 patients. Seven of 18 patients had evidence of cervical syndesmophytes on X-ray. In addition to expected findings of syndesmophytes, active inflammatory lesions were seen in MR imaging in two of 18 patients with AS and in none with fibromyalgia (Fig. 1). Both AS patients with positive MRI were on anti-TNF therapy during the study and did not have syndesmophytes at the cervical spine as also by X-ray films.



**Conclusions:** Active inflammation of both entheses and joints of the craniocervical junction was demonstrated by MRI in some patients with AS and persistent neck pain. Active lesions at the craniocervical junction should be included in the differential diagnosis of neck pain in AS.

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- [1] Slobodin G, Shpigelman A, Dawood H, Rimar D, Croitoru S, Boulman N, Rozenbaum M, Kaly L, Rosner I, Odeh M. Craniocervical junction involvement in ankylosing spondylitis. Eur Spine J. 2015 Dec;24(12):2986–90.

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#### FRI0442 IDENTIFICATION OF ENTHESITIS AT THE ACHILLES TENDON INSERTION IN PATIENTS WITH ANKYLOSING SPONDYLITIS USING DIGITAL RADIOGRAPHY

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**Background:** Posterior heel pain is a common symptom in the foot and ankle region, with many different causes that need to be distinguished by differential diagnosis. Among them is ankylosing spondylitis (AS), in which enthesitis of