**References:**

This important aspect in FM male patients. Could improve the sexual aspect in the global contest of FM and to investigate function contributes to a bad quality of life. Other studies are needed to analyze demotivation feeling, inability to live a “normal everyday life”, the reduced sexual from a psychological (anxiety, depression, loss of self-esteem, decreased sexual relationship (p<0.001 r=0.202). Multivariate analysis observed a significantly influence (p<0.001 r=0.70 respectively). Relationship duration also presented a positive correlation with lower sexual feeling with partner (p<0.001) showed higher values of Qualisex.

**Methods:** We consecutively enrolled women affected by FM (ACR 2016) referring to our outpatient clinic. Demographic and clinical examination as well as evaluation of severity of FM symptoms (R-FIQ, SSS and WPI) were assessed for each patient. Moreover, Hospital Anxiety and Depression Scale (HADS) and questionnaire for sexual dysfunction-Qualisex were anonymously administered. Qualisex questionnaire is composed by 10 questions on different items of sexual life with higher scores suggesting of greater negative impact of FM on sexual life.

**Results:** The cohort was composed by 373 FM female patients, median age 49.1 years. Qualisex questionnaire was validated with Cronbach’s alpha test (0.878), median value 5.3. Women with lower grade of education (p=0.002), married (p=0.001) and with lower sexual feeling with partner (p=0.001) showed higher values of Qualisex. Menopause status, drug assumption and comorbidity did not influence patients’ sexual quality. High values of HADS-A and HADS-D showed a positive correlation with Qualisex Total (p=0.001 r=0.312; p<0.001 r=0.542 respectively) as well as high values of VAS pain, VAS fatigue and VAS dryness (p<0.001 r=0.438; p<0.001 r=0.375; p<0.001 r=0.70 respectively). Relationship duration also presented a positive correlation (p=0.001 r=0.202). Multivariate analysis observed a significantly influence of relationship duration, VAS pain, fatigue and dryness, HADS-A/D, R-FIQ and all specific items of Qualisex, on Qualisex Total correcting for patients’ age (p<0.001).

**Conclusion:** Qualisex questionnaire represents a good test to evaluate sexual disorders in FM women. Different aspects contribute to sexual dysfunction both from a psychological (anxiety, depression, loss of self-esteem, decreased sexual attraction) and a physical (pain, fatigue etc.) point of view with an important impact of FM on sexual life and consequently a worsening of FM symptoms. Over a demotivation feeling, inability to live a “normal everyday life”, the reduced sexual function contributes to a bad quality of life. Other studies are needed to analyze which interventions, pharmacological and non (physical activity, psychotherapy), could improve the sexual aspect in the global contest of FM and to investigate this important aspect in FM male patients.

**References:**

COGNITIVE DYSFUNCTION IN PATIENTS WITH ANKYLOSING SPONDYLITIS: RELATIONSHIP WITH BRAIN-DERIVED NEUROTROPHIC FACTOR (BDNF)

Keywords: Cognitive function, Spondyloarthritis, Fibromyalgia

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Background: Normal cognitive status is essential for daily activities, but many people with chronic autoimmune rheumatic diseases are impaired in this function. This is probably related to the age of the patients, the education level, the duration of the disease, the disease activity. Pronounced pain syndrome in ankylosing spondylitis (AS) patients is a risk factor of cognitive dysfunction [1, 2]. There are also literature data regarding the involvement neurotrophins, namely brain-derived neurotrophic factor (BDNF), in the mechanisms of pain regulation and psychoemotional disorders [3].

Objectives: Our study aimed to evaluate the cognitive status in patients with AS and the relationship with BDNF.

Methods: We examined 143 patients (81.8% male) with AS according to modified New York criteria. The mean age of the examined patients was 42.1±11.3 years. The Mini Mental State Examination MMSE (Folstein M.F. et al., 1975) was used to assess the psychological and cognitive status. The level of BDNF in plasma was determined twice a day (at 8:00 and 20:00) by the ELISA method, also to assess the psychological and cognitive status. The level of BDNF in plasma was significantly higher than the morning level – 8.0±2.0 (p=0.001). We established a circadian rhythm of BDNF production during the day. It was determined that the evening level of the BDNF index was significantly higher than the morning level – 8.0±2.0 (p=0.001). We established the circadian rhythm of BDNF production during the day and relationship between BDNF production and cognitive status – cognitive dysfunction in AS patients is associated with high evening BDNF levels.

RESULTS:

- There was an increase in evening BDNF levels in patients with cognitive dysfunction (P=0.077). We established a negative correlation between cognitive status and the evening BDNF level - with an increase in evening BDNF level cognitive dysfunction deepens (P<0.05).

Sacrament Arthritis 2010, 39, 448-53.

Table 1. Significant differences in FIQR total, domains and single question scores based on sex

<table>
<thead>
<tr>
<th>Score</th>
<th>M (39)</th>
<th>F (39)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIQR Total</td>
<td>58.8 (23.5)</td>
<td>70.3 (14.7)</td>
<td>.035</td>
</tr>
<tr>
<td>FIQR Physicalfunction</td>
<td>14.8 (8.2)</td>
<td>20.1 (5.1)</td>
<td>.003</td>
</tr>
<tr>
<td>FIQR1 Brush or comb your hair</td>
<td>2.4 (3.3)</td>
<td>4.3 (2.9)</td>
<td>.006</td>
</tr>
<tr>
<td>FIQR4Vacuum, scrub, or sweep floors</td>
<td>5.2 (3.6)</td>
<td>7.5 (2.2)</td>
<td>.005</td>
</tr>
<tr>
<td>FIQR5Lift and carry a bag full of groceries</td>
<td>6.4 (3.1)</td>
<td>8.3 (1.6)</td>
<td>.002</td>
</tr>
<tr>
<td>FIQR7 Change bed sheets</td>
<td>4.7 (3.6)</td>
<td>7.1 (2.7)</td>
<td>.001</td>
</tr>
<tr>
<td>FIQR9 Go shopping for groceries</td>
<td>4.9 (3.3)</td>
<td>6.7 (2.4)</td>
<td>.012</td>
</tr>
<tr>
<td>FIQR21Sensitivity to loud noises, bright lights, odors, cold</td>
<td>6.2 (2.7)</td>
<td>7.3 (1.6)</td>
<td>.005</td>
</tr>
</tbody>
</table>

We established the circadian rhythm of BDNF production during the day. It was revealed in patients with normal cognitive status, as well as in patients with cognitive dysfunction. The BDNF level in the morning was significantly higher than in the evening. We compare BDNF levels in patients with normal cognitive status and in patients with cognitive dysfunction. Patients with cognitive dysfunction showed a trend toward higher evening BDNF level compared with patients with normal cognitive status (P=0.077). We established a negative correlation between cognitive status and the evening BDNF level - with an increase in evening BDNF level cognitive dysfunction deepens (P<0.05).

Conclusion: Cognitive dysfunction is a frequent condition in patients with AS.

Our study results demonstrate circadian rhythm of BDNF production during the day and relationship between BDNF production and cognitive status – cognitive dysfunction in AS patients is associated with high evening BDNF levels.

REFERENCES:


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Disclosure of Interests: None Declared.

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INFLUENCE OF REPETITIVE TRANSCRANIAL MAGNETIC STIMULATION OF CNS ON FIBROMYALGIA PATIENTS - A RANDOMIZED, DOUBLE-BLIND, PLACEBO-CONTROLLED STUDY (INTERIM ANALYSIS)

Keywords: Patient reported outcomes, Fibromyalgia, Non-pharmacological interventions

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Background: Fibromyalgia syndrome (FMS) is a chronic disorder characterized by diffuse pain, sensitivity to sensory stimuli, fatigue, cognitive impairment, mood and sleep disorder. The side effects of drugs used in treatment (i.e. antiepileptics) can mimic certain symptoms of fibromyalgia (i.e. impaired balance, dizziness), so there is a huge need for alternative treatment. Repetitive transcranial magnetic stimulation (rTMS) is a non-invasive therapy utilizing a magnetic field to stimulate different brain structures. rTMS is registered as adjuvant therapy for major depressive disorder, migraine, and obsessive-compulsive disorder, and its efficacy is being investigated for other conditions.

Objectives: The main aim was to evaluate the influence of rTMS in alleviating the symptoms in patients with fibromyalgia.

Methods: Sixteen patients were randomized to rTMS (n=10) or sham treatment (n=6). rTMS was applied in 10-day sessions with a frequency of 10 Hz and an intensity of 130% of the predetermined motor threshold over the left dorsolateral prefrontal cortex (DLPFC). One session of rTMS consisted of 5 seconds of stimulation (frequency of 10 Hz, for a total of 50 stimuli) and a 10-second pause. Patients received 2000 stimuli per day (50 stimuli in 40 repeated sessions). The placebo was applied with an inactive “sham” coil which resembles active treatment. The intensity of symptoms was assessed with Tender Point Examination (TPE), Visual Analog Scale of Pain (VAS), Brief Pain Inventory (BPI), Beck Depression Inventory II (BDI II), Beck Anxiety Inventory (BAI), Montreal Cognitive Assessment (MoCa), Medical Outcome Studies Sleep Scale (MOS SS), Functional Assessment of Chronic Illness Therapy – Fatigue (FACIT-F), 36-item Short Form Survey (SF-36), and Revised Fibromyalgia Impact Questionnaire (FIQ).

Results: There was no difference between groups in any of the characteristics at baseline. There was a decrease in BDI score after the treatment period, but the change was more prominent in the rTMS group compared to the placebo (p=0.064). rTMS was also superior in a decrease in FIQR score (p=0.054) (Table 2.) and an increase in vitality through SF-36 (p=0.003). Moreover, placebo treatment led to a significant reduction in sleep disturbances (p=0.035). There were no differences between groups in delta values before and after treatment regarding the rest of investigated characteristics (Table 1., p<0.05).

Conclusion: Preliminary results suggest a reduction in the impact of the disease and depression, as well as an increase in the vitality of participants who have been treated with rTMS. The placebo effect on a reduction of sleep disturbance can be partly explained by the stimulating effect of rTMS. Because this was an interim analysis, the presented results should be taken with caution.