HETEROGENEITY OF FIBROMYALGIA: PSYCHOPATHOLOGICAL CHARACTERISTICS OF DIFFERENT SUBTYPES AND EFFICACY OF THERAPY

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Background: Fibromyalgia (FM) is one of the most complicated diseases in the rheumatology and therapeutic practice. Despite the relative success in diagnosing pathology and developing new diagnostic criteria, the treatment of FM remains uncertain. This, in particular, may be due to the presence of various subtypes of disease, which differ in their pathogenesis and, therefore, require differentiated therapy.

Objectives: to identify the subtypes of FM, to determine their basic psychopathological characteristics and adherence to therapy.

Methods: A study included 104 patients with FM according to 2010/2011 diagnostic criteria. All patients were questioned about their attitudes towards employment and sports, and determined the level of anxiety and depression by the HADS scale, as well as therapy compliance 2 months later.

Results: the results obtained support the presence of five subtypes of FM. Patients with a high level of anxiety (10.57±2.67) and minimal widespread pain index (WPI) (6.30±6.04) were included in Group 1. This group consisted of 40.35% of the total number of patients with the minimum average age (45 years) and the highest ratio of men/women (8:38). Group 1 was also characterised by the greatest employment (34 of 46 patients) and a relatively rare abandonment of physical exercises (14 of 46 patients). The second group of patients was conditionally called anxious-depressive because of the frequent detection of both anxiety and depression in physical exercises (14 of 46 patients). The group included patients with a high level of anxiety (10.78±4.09). Group 2 differed from Group 1 by a lower employment (12.5 of 46 patients) and a relatively frequent abandonment of physical exercises (22 of 46 patients). The patients were young (average age 45 years) and the majority were positive for TSAs. Group 3 were patients with a moderate number of WPI (10.78±4.09). They differed from Group 1 by mainly female sex and more frequent avoidance of physical exercises (8 of 18 patients). Group 3 (the proposed name is hysteroid) consisted of women with the maximum number of WPI (14.33±4.22) and low levels of anxiety and depression. Despite the average working age, they were mostly unemployed with the lowest level of adherence to physical activity (4 of 24 patients). The fourth subtype of FM included patients with concomitant chronic diseases. They were expected to be the oldest (68 years on average) with a high number of painful areas (13.44±5.0), low levels of anxiety and depression. All of them refused to perform physical exercises and were unemployed. Finally, Group 5 included patients without concomitant affective and somatic disorders. This group has taken the middle position for all indicators, except the lowest level of anxiety and depression among all groups.

The lowest rates of therapy compliance were demonstrated in Group 3. At the same time, the time of communication with these patients was the maximum.

Conclusions: patients with FM are a heterogeneous group, differing in their psychopathological characteristics. Younger patients are more likely to exhibit an elevated level of anxiety and depression and are prone to catastrophize their sensations, while older patients usually have a severe somatic pathology. They are often found in therapeutic practice, which makes it necessary to conduct educational programs on FM diagnosis and management for general practitioners.

We consider it very important to identify the hysteroid subtype of FM, since these patients are not inclined to seek recovery and represent a huge difficulty for the treating doctors. We proposed that they use their disease to attract the attention of treating doctors. We considered it very important to identify the hysteroid subtype of FM, since these patients are not inclined to seek recovery and represent a huge difficulty for the treating doctors. We proposed that they use their disease to attract the attention of treating doctors.

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THE ROLE OF THIOL-DISULFIDE HOMEOSTATIC IN THE ETIOPATHOGENESIS OF FIBROMYALGIA

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Background: Fibromyalgia syndrome (FMS) is a chronic disease with unknown etiology, characterized by widespread pain, fatigue, sleep disturbance, cognitive dysfunction and anxiety. Oxidative stress has also been implicated in etiopathogenesis in recent years.

Objectives: In this study we aimed to investigate the role of thioldisulfide balance in the etiopathogenesis of fibromyalgia, as an indicator of oxidative stress.

Methods: 98 female patients with fibromyalgia, 61 of whom were newly diagnosed and 37 were presently ongoing treatment and 82 healthy female controls were included in the study. Fibromyalgia impact questionnaire, pain visual analogue scale, Pittsburgh sleep quality index, fatigue severity scale, short form-36, tender point count, Beck depression inventory and Beck anxiety inventory were evaluated in both groups. To determine the oxidative balance, the thiol/disulfide balance was investigated by the new automatic measurement method developed by Erel and Neseloglu.

Results: Serum native thiol levels were 394.43±52.43 μmol/L and 418.12±49.57 μmol/L (p=0.002), total thiol levels were 429.55±35.3 μmol/L and 440.95±8.7 μmol/L (p=0.052) and serum disulphide levels were 17.5 (9.8) μmol/L and 14.8 (10.3) μmol/L in the FMS and control groups, respectively (p=0.002). In the FMS group, disulphide/native thiol percent ratios (p<0.001) and disulphide/native thiol percent ratios (p<0.001) were statistically significantly lower than those of the control group. Serum native thiol levels (p=0.008) were 384.2 (76.7) μmol/L, 387.6 (85.05) μmol/L and 416.55±31.4 μmol/L; disulphide levels were measured as 17.2 (7.5) μmol/L, 18.3 (14.55) μmol/L and 14.8 (10.3) μmol/L newly diagnosed patients, treated patients and control groups, respectively. Serum native thiol values at the thiol-disulfide balance did not improve disulfide in spite of being slightly approaching the control group in the treated patients. When the ratio of disulfide/native thiol was examined, it was seen that both diagnosed and treated patients remained in a balanced disulfide state. There were statistically significantly correlations between tender points (respectively r=0.02, r=0.241; p=0.039, r=0.213; p=0.039, r=0.213; p=0.039, r=0.213). SF-36 pain subscale (respectively r=0.02, r=0.241; p=0.041, r=0.216; r=0.042, r=0.019; r=0.041, r=0.207) and Beck anxiety inventory scores (respectively r=-0.009, r=0.216; p=0.027, r=0.225; p=0.026, r=0.025, r=0.025) with disulfide levels, disulfide/native thiol, disulfide total thiol and native thiol/native thiol ratio.
Conclusions: The disulphide shift of the thiol-disulphide balance and the correlation between the clinical parameters and the thiol-disulphide balance components suggest the presence of oxidative stress in FM patients suggests that the role of thiol-disulphide balance in the etiopathogenesis of FM.

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THU0510  HYPERSENSITIVITY, ALEXITHYMA AND DISEASE CHARACTERISTICS OF PATIENTS PRESENTING WITH SYMPTOMS OF FIBROMYALGIA

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Background: Fibromyalgia (FM) is characterised by chronic widespread pain and other symptoms such as fatigue, sleep disturbances and cognitive problems. Psychosocial factors and personality traits may be present in a variable degree and may play a role in the perception, coping and treatment of FM.

Objectives: We looked for symptoms of hyperventilation, depression, anxiety and burn-out as well as for personality traits such as hypersensitivity and alexithymia in a large sample of patients. We looked at differences in prevalence of these symptoms in the patient group when selected by the 1990 FM classification criteria and by the 2010 diagnostic FM criteria. Methods: A large group of patients presenting on the Unit of Physical Medicine between 2014 and 2017 with chronic widespread pain was analysed and grouped depending on the 1990 ACR classification criteria for FM on one hand and the 2010 ACR diagnostic criteria for FM on the other hand. Self-administered tools used were the Nijmegen questionnaire (hyperventilation), the Aron questionnaire (hypersensitivity), the HADS questionnaire (anxiety and depression), the BMS-10 questionnaire (burn-out) and the TAS alexithymia questionnaire.

Results: Out of 1085 patients, 828 (76%) fulfilled the 1990 ACR classification criteria for FM. Hyperventilation (score ≥12) was found in 97% and hypersensitivity (score ≥12) in 75%. Symptoms of anxiety and depression (scores≥11) were observed in 59% and 36% respectively. Burn-out (score ≥4.5) was seen in 40% of patients while a high TAS score (>8) was found in 70% of patients. Overall, 906 patients fulfilled the 2010 ACR diagnostic criteria for FM. The distributions of disease characteristics and personality traits in this population were very similar. Only 38% of these 906 patients had a wide spread pain index (WPI) of 3 to 6.

Conclusions: A significant number of patients demonstrated high levels of anxiety, more than depression. Hypersensitivity and alexithymia were also found to be highly prevalent. There was a substantial level of hyperventilation. It may be useful to consider all these characteristics in the development of treatment programs for FM patients. Results were similar when groups were selected by 1990 ACR classification criteria for FM or by the 2010 ACR diagnostic criteria for FM. Only a minority of patients had a WPI of 3 to 6.

REFERENCES:

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THU0512  HYPERBARIC OXYGEN THERAPY (HBOT) TREATMENT IN FIBROMYALGIA

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Background: Chronic pain conditions, such as fibromyalgia (FM), are among the most frequent and disabling health problems managed by general practitioners, rheumatologists, clinical psychologists. FM is characterised by multifocal pain, fatigue, non-restorative sleep, cognitive complaints high levels of distress, associated with greater affect intensity. There’s evidence from randomised controlled trials that some treatments like paracotherapy, patient education, behavioural therapy and physiotherapy are effective in reducing symptoms; however the majority of the patients aren’t satisfied with the current treatments. HBOT showed some clinical effects that may induce a significant improvement of the FM symptoms.

Objectives: The goal of this work was to evaluate the effect of HBOT on FM symptoms.

Methods: 33 female patients aged 29–63 y. with FM were included in this work. Patients initially pharmacologically treated (Predgabalin 150 mg/die, Duloxetine 60 mg/die) with unsatisfactory clinical improvement, were enrolled at the Rheumatology Unit San Cesario-Italy. The HBOT protocol comprised 20 sessions, 3d/ w.90 min, 100% oxygen at 2.5ATA. Patients were randomly assigned to treated and control groups and evaluated every month for the next 4 months: patients in group A were treated with 20 sessions of HBOT in the first 2 months and evaluated for the following 2 months; patients in group B used the pharmacological treatment for the first 2 months and then were treated with 20 session of HBOT in the last 2 months. During HBOT no pharmacological treatment was allowed. The treated group patients were evaluated at baseline and after 10 and 20 HBOT sessions. Evaluations consisted of physical examination, including tender point count, and socio-demographic and clinimetric questionnaires: Fibromyalgia Impact Questionnaire (FIQ), Functional Assessment of Chronic Illness Therapy, Pittsburgh Sleep Quality Index, Quality of life, Beck Depression Inventory, State Trait Anxiety Inventory, Pain Catastrophizing Scale.

Results: 5 patients withdrew from the HBOT treatment for claustrophobia. HBOT led to significant amelioration of all FM symptoms, with significant improvement in life quality. HBOT leads to a reduction in the number of tender points in the 2 groups. This reduction occurs in the group A without changing during the following 2 months of observation. In the group B the improvement is related to HBOT than to the therapy. The FIQ score improves in group A. No improvement was observed in the control group.

Conclusions: The analgesic effects of HBOT have been studied in nociceptive, in inflammatory and neuropathic pain models, and may be useful for the treatment of various chronic pain syndromes. Excessive pain in FM may be due to hyperexcitability of the pain processing pathways and under-activity of the pain inhibiting pathways in the brain. It has been shown that HBOT increases cell metabolism, reduces apoptosis, alleviates oxidative stress, increases neurotrophin and nitric oxide levels by enhancing mitochondrial function in neurons and glial cells, it may even promote the neurogenesis of endogenous neural stem cells. HBOT-induced neuroplasticity also leads to the repair of chronically impaired brain functions. Our data confirm the efficacy of HBOT in treating FM. Further studies are required to evaluate the protocol and to understand the duration of the clinical effects.

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