Acknowledgements: The research leading to these results has received funding from the European Union Seventh Framework Programme (FP7/2007 – 2013) under grant agreement no 6 02 919 (GLORIA), Swedish Medical Research Council, Åke Wiberg Foundation and Magnus Bergvalls Foundation and Uppsala Berzelii Technology Centre for Neurodiagnostics, with financing from the Swedish Governmental Agency for Innovation Systems.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.5253

AB1065

PRELIMINARY FINDINGS OF A 2-MONTHS ACUPUNCTURE INTERVENTION ON SYMPTOMATOLOGY AND QUALITY OF LIFE IN PATIENTS WITH FIBROMYALGIA

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Background: Acupuncture is frequently used in the treatment of different chronic pain conditions. In Fibromyalgia (FM) the evidences available are somehow conflicting, and the correct positioning of such kind of therapy has not yet precisely defined.

Objectives: To assess the response to a single course of acupuncture in patients with FM non-responsive to the usual pharmacological treatment.

Methods: Consecutive FM patients with unsatisfactory response or intolerance to the pharmacologic treatment (duloxetine and/or pregabalin) were involved in this study. Unsatisfactory response was defined by the presence of a revised Fibromyalgia Impact Questionnaire (FIQ-R) total score ≥ 40 and of a Patient Health Questionnaire 15 (PHQ15) ≥ 5 after 3 months of stable pharmacological treatment. Acupuncture treatment consisted in 8 weekly sessions. The acupuncture formula, according to the Traditional Chinese Medicine indications, included the following points: LV3 +LI4 (to move Qi), ST36 +CV6+CV12 (to tonify Qi and Blood), GV20 (to raise Qi), and Ex-HN-3 (Yintang) (to calm the Shen), with acupuncture needle 0.25 x 25 mm with guide tube (Huanqiu). For each session needles were retained for 30 min. At baseline (before the first session) and at the end of the treatment course (after the eighth session) were collected the number of tender points (TP) and patient-reported outcomes (PROs). Differences between baseline and end of the acupuncture treatment were evaluated through the Wilcoxon test, results expressed in median values with 95% confidence interval (CI).

Results: Thirty-four subjects were enrolled in the study. Thirty-two patients (29 women, 3 men, mean age 49 years, range 18–72 years) completed the acupuncture treatment. In two patients (one woman and one man) the acupuncture therapy was stopped at the second session for poor tolerance to the needles. Eleven patients were in pharmacological therapy with pregabalin, nine with duloxetine, while 12 resulted intolerant both to pregabalin and duloxetine. From baseline, after the 2 months of acupuncture treatment, different parameters showed a significant improvement. Particularly, it has been observed a significant reduction in the TP number (17 [95% CI 16–18] $\rightarrow$ 10 [95% CI 8–12]; $p < 0.0001$), in the somatic symptoms assessed with the PHQ15 (13.5 [10.0–17.0] $\rightarrow$ 7.0 [6.0–10.0]; $p < 0.0001$), but also in the FIQ-R total score (61.5 [39.8–70.3] $\rightarrow$ [30.2–66.5]; $p = 0.0029$), in the Fibromyalgia Activity Score (FAS) (6.7 [4.8–7.7] $\rightarrow$ 4.6 [CI 3.2–6.1]; $p = 0.0017$), and in the Self-Assessment Pain Scale (SAPS) (4.5 [3.8–5.6] $\rightarrow$ 3.2 [2.9–4.2]; $p = 0.0192$). Interestingly, acupuncture revealed a good effect even in the neuropathic-like features of pain, measured by the painDETECT questionnaire (19.0 [15.0–25.0] $\rightarrow$ 14.5 [10.9–17.0]).

Conclusions: A 2 months acupuncture treatment provides an important global improvement in the health status in FM patients refractory/intolerant to the pharmacologic therapy. The strongest ameliorations are represented by the reduction in the TP number and in the somatic symptoms.

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Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.7016

AB1066

DIABETES MELLITUS TYPE 2 RISK ASSESSMENT IN FIBROMYALGIA WOMEN

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Background: Fibromyalgia (FM) female are less physically active than sedentary healthy women.¹ Low physical activity (PA) is among the leading causes of the major noncommunicable diseases, including diabetes mellitus type 2 (DM2).^{2–3} An increased prevalence rate of FM in DM2 patients was revealed.^{4–5} Risk of the development of DM2 in FM is unknown.

Objectives: The purpose of this study was to assess the risk of DM2 development in FM women.

Methods: The study involved 67 FM women^{ACR 1990} and ²⁰¹⁰ criteria) aged 42.6 $\pm$ 7.8 (M $\pm$ SD) yrs without known diabetes, and 51 healthy controls (HCs) (all women) aged 44.8 $\pm$ 7.3 years. All participants were asked to complete a modified version of the Finnish Diabetes Risk Score (FINDRISC), which evaluates age, body mass index, waist circumference, current antihypertensive medication, frequency of fruit and vegetable consumption, physical activity, personal history of high blood glucose, and family history of DM2.⁶ Fasting plasma glucose (FPG), oral glucose tolerance test (OGTT) and/or glycated haemoglobin (HbA1c) values were collected from all subjects to determine their glucometabolic state. Prediabetes was diagnosed by the presence of impaired FPG (≥ 100 mg/dL to < 126 mg/dL), impaired OGTT (≥ 140 mg/dL to < 200 mg/dL) and/or impaired HbA1c ($\geq 5.7\%$ to $\leq 6.4\%$).⁷

Results: According to the FINDRISC questionnaire low risk of DM2 in the next 10 years was found in 14.92% of FM women, intermediate risk—in 22.39%, moderate risk—in 29.85%, high risk—in 23.88%, a very high risk—in 8.96% of patients. In the group of HCs low risk of DM2 was found in 19.61% of women, intermediate risk—in 39.22%, moderate risk—in 21.57%, high risk—in 15.68%, a very high risk—in 3.92% of subjects. Therefore, in most of FM female (53,73%) risk of DM2 was detected as moderate-to-high, while in the majority of HCs (60.79%) it was detected as intermediate-to-moderate. Prediabetes was diagnosed in 11.94% of FM female compared to 5.88% among healthy women.

Conclusions: FM women are found to have increased risk of DM2 development compared to healthy women.

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Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.7425

AB1067

PREVALENCE OF FIBROMYALGIA IN PATIENTS WITH PAINFUL KNEE OA

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Background: Fibromyalgia (FM) has been conceptualised as a central nervous system (CNS) disorder, characterised by augmented sensory processing and inability to modulate pain effectively.¹ Global mean prevalence of FM is 2.7% with female/male ratio of 4:1. Several studies highlight the importance of central sensitisation (CS) as a significant manifestation of neuropathic pain symptoms in knee osteoarthritis (OA).^{2–3} Possible similar mechanisms of chronic pain maintenance in OA – structural pathology, and FM – central sensitivity syndrome, provoke

further interest in investigation of any links between these conditions. Therefore, prevalence of FM in patients with painful knee OA is of considerable interest.

Objectives: The purpose of this study was to evaluate the prevalence of fibromyalgia (FM) in patients with painful knee OA.

Methods: The study involved 92 patients (63 females and 29 males) with painful knee OA^{ACR 1986 Osteoarthritis Knee Criteria} with non-surgical management aged 59.4±14.3 (M±SD) yrs.⁴ Radiographic findings for OA were classified according to Kellgren-Lawrence scale grading.⁵ FM was diagnosed in these subjects if both ACR 1990⁶ and 2010⁶ criteria were met.⁵⁻⁶

Results: FM was diagnosed in 21 painful knee OA patients (22.83%). Among female patients FM was confirmed in 19 from 63 subjects (30.16%) compared to 2 from 29 male patients (6.90%). No relationship was found between the radiologic stage of the knee OA and FM prevalence in the investigated subjects.

Conclusions: FM prevalence is relatively high in painful knee OA patients, mostly female. Further studies investigating possible FM impact on pain modulation, functional disability and quality of life in painful knee OA are needed.

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Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.7383

AB1068

PAIN, FATIGUE AND FUNCTIONAL IMPAIRMENT IN FIBROMYALGIA PATIENTS MAY BE REDUCED BY ADDING A CYCLE OF HYPERBARIC OXYGEN THERAPY (HBOT) TREATMENT

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Background: Fibromyalgia Syndrome (FM) is a persistent and debilitating disorder estimated to impair the quality of life of 2%–4% of the population. FM is an important representative example of central nervous system sensitisation and is associated with abnormal brain activity. The syndrome is still elusive and refractory. Hyperbaric oxygen therapy (HBOT) can rectify abnormal brain function underlying the symptoms of FM patients. Increasing oxygen concentration by HBOT may change the brain metabolism and glial function to rectify the FM-associated brain abnormal activity.¹

Objectives: To evaluate the effect of HBOT on clinical symptoms in FM resistant to the usual pharmacological treatment

Methods: Thirty female patients, aged 21–67 years and diagnosed with FM at least 2 years earlier, and resistant to any pharmacological treatment were assigned to be added on with HBOT. The treated group patients were evaluated at baseline and after 10 and 20 HBOT sessions. Evaluations consisted of physical examination, including tender point count, extensive evaluation of quality of life. Study endpoints included assessments of pain (VAS), the FACIT Fatigue Scale which is a short, 13-item, that measures an individual's level of fatigue during their usual daily activities over the past week. A validated Italian version of the Fibromyalgia Impact Questionnaire (FIQ-R) was used to evaluate the level of functional impairment as well as the FAS index which is a short and easy to complete self-administered index combining a set of questions relating to non-articular pain, fatigue and the quality of sleep that provides a single composite measure of

disease activity ranging from 0 to 10. The HBOT protocol comprised 20 sessions, 3 days/week, 90 min, 100% oxygen at 2.5 ATA.

Results: The effect of the hyperbaric oxygen treatment on the clinical symptoms are summarised in table 1. HBOT treatments of treated group led to statistically significant improvements in the mean scores of pain and fatigue (FACIT) after 10 and 20 HBOT sessions (mean change of pain after 20 sessions -1.76 ± 2.5 , $p < 0.001$) (mean change of fatigue after 20 sessions 5.93 ± 2.10 , $p < 0.001$) The FIQ-R score significantly improved following HBOT in the treated group (mean change after 20 sessions -12.89 ± 17.04 , $p = 0.001$). The FAS score showed a positive trend after 10 sessions and a significant improvement after 20 sessions (mean change -2.02 ± 3.14 , $p = 0.006$).

Abstract AB1068 – Table 1. Clinical data at baseline and after HBOT treatment

	Baseline	Follow up (10 sessions)	Paired samples t-test	Follow up (20 sessions)	Paired samples t-test
VAS PAIN	8.11±1.81	6.84±2.07	p=0.0062	6.32±2.58	p=0.0023
FACIT	20.42 ±7.06	23.76±6.82	p=0.0836	26.36±8.25	p=0.0069
FIQ-R total score	68.04 ±3.90	59.83±4.41	p=0.0090	55.56±5.19	p=0.0019
FAS total score	8.14±0.47	7.07±0.50	p=0.0928	5.99±0.49	p=0.0065

Conclusions: These preliminary data show that HBOT may determine a significant clinical improvement in patients affected by FM and resistant to the common pharmacological treatment. However, further studies of large numbers of patients are required in order to confirm this preliminary finding and modify treatment strategies accordingly.

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Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.4900

AB1069

CHRONIC WIDESPREAD PAIN, SLEEP PROBLEMS AND PRESSURE PAIN THRESHOLDS IN A POPULATION SAMPLE

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Background: Chronic musculoskeletal pain is common in the general population and 11% report chronic widespread pain (CWP). A sensitisation of the nociceptive system has been proposed to be one possible mechanism behind CWP, a prerequisite for fibromyalgia (FM). A reduced pressure pain threshold (PPT) has been reported in subjects with FM, but also as an effect of bad sleep.

Objectives: The aim was to study pain thresholds in people with CWP in comparison with those having no chronic pain (NCP) or chronic regional pain (CRP), but also in relation to self-reported sleep problems.

Methods: From a 21 year follow-up of the Swedish population based Epipain cohort (n 1321), 146 subjects, with and without a report of chronic pain, were invited to a clinical assessment including measurement of PPT. Subjects were classified as having NCP, CRP or CWP, according to the definition of CWP in the ACR 1990 criteria for FM, based on a pain mannequin presenting 0–18 body regions. Sleep problems (initiating sleep, frequent awakenings, not feeling rested, early awakening) were reported by Uppsala Sleep Inventory (four items scored from 1–5, best to worst). PPTs were measured in kPa at eight different anatomical sites representing upper, lower, left and right side of the body using the AlgoMed Computerised Pressure Algometer FPIX (Medoc Ltd. Advanced Medical Systems, Israel). A mean was calculated from all eight points to create a global pressure pain threshold (PPTg), where a lower PPTg indicated a higher sensitivity to pain. ANCOVA regression analysis was performed to study associations between PPTg and reports of chronic pain and sleep problems, controlled for age and gender.

Results: Out of 146 subjects, 89 (61%) were women. Mean age was 64.6 (SD 12.7) years. This sub-population from the Epipain cohort reported a high prevalence of CWP without significant difference between men and women (33.9% vs 44.9%; $p = 0.411$). Women had lower PPTg than men (345.0 kPa vs. 563.9 kPa; $p < 0.001$). Subjects classified as CWP had lower PPTg than those classified as NCP (362.0 kPa vs. 479.9 kPa; $p = 0.003$). A report of CRP did not affect PPTg in