

FIBROMYALGIA IN MEN

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ANDERSON RU, SAWYER T, WISE D, MOREY A, NATHANSON BH

PAINFUL MYOFASCIAL TRIGGER POINTS AND PAIN SITES IN MEN WITH CHRONIC PROSTATITIS/CHRONIC PELVIC PAIN SYNDROME

PURPOSE: A combination of manual physiotherapy and specific relaxation training effectively treats patients with chronic prostatitis/chronic pelvic pain syndrome. However, little information exists on myofascial trigger points and specific chronic pelvic pain symptoms. We documented relationships between trigger point sites and pain symptoms in men with chronic prostatitis/chronic pelvic pain syndrome. **MATERIALS AND METHODS:** We randomly selected a cohort of 72 men who underwent treatment with physiotherapy and relaxation training from 2005 to 2008. Patients self-reported up to 7 pelvic pain sites before treatment and whether palpation of internal and external muscle trigger points reproduced the pain. Fisher's exact test was used to compare palpation responses, ie referral pain, stratified by reported pain site. **RESULTS:** Pain sensation at each anatomical site was reproduced by palpating at least 2 of 10 designated trigger points. Furthermore, 5 of 7 painful sites could be reproduced at least 50% of the time ($p < 0.05$). The most prevalent pain sites were the penis in 90.3% of men, the perineum in 77.8% and the rectum in 70.8%. Puborectalis/pubococcygeus and rectus abdominis trigger points reproduced penile pain more than 75% of the time ($p < 0.01$). External oblique muscle palpation elicited suprapubic, testicular and groin pain in at least 80% of the patients at the respective pain sites ($p < 0.01$). **CONCLUSIONS:** This report shows relationships between myofascial trigger points and reported painful sites in men with chronic prostatitis/chronic pelvic pain syndrome. Identifying the site of clusters of trigger points inside and outside the pelvic floor may assist in understanding the role of muscles in this disorder and provide focused therapeutic approaches.

J Urol (2009 Dec) 182(6):2753-8

APARICIO VA, CARBONELL-BAEZA A, ORTEGA FB, RUIZ JR, HEREDIA JM, DELGADO-FERNANDEZ M

HANDGRIP STRENGTH IN MEN WITH FIBROMYALGIA

OBJECTIVES: To examine the association of muscular strength, as measured by handgrip strength test (HGs), with the presence/absence of fibromyalgia (FM) and FM severity in men. **METHODS:** A total of 20 men (age, (mean age $\hat{\pm}$ standard deviation) of $48.0 \hat{\pm} 8.0$ years) with FM and 60 healthy subjects (age, $49.5 \hat{\pm} 7.3$ years) participated in the study. The HGs was measured by a maximal isometric test using a dynamometer with adjustable grip in both hands, and the average score was used in the analysis. All FM patients completed the Spanish version of the Fibromyalgia Impact Questionnaire (FIQ). Patients were classified as having moderate FM if the FIQ was <70 and as having severe FM if the FIQ was 70 or greater. **RESULTS:** HGs was $\sim 17\%$ lower in FM patients compared to healthy men ($p=0.005$) and $\sim 27\%$ lower in men with severe FM compared to those with moderate FM ($p=0.03$). Age-adjusted logistic regression models showed that 1 kilogram increment in HGs was associated with an 8% reduced risk of having FM (OR=0.92, 95% CI: 0.86-0.97, $p=0.002$). In the FM group, 1 kilogram increment in HGs was associated with a 13% reduced risk for having severe FM (OR=0.87, 95% CI: 0.76-0.99, $p=0.04$). HGs was negatively associated with pain, fatigue, stiffness and with the total score from the FIQ (all $p<0.05$). **CONCLUSIONS:** HGs is reduced in male FM patients and is inversely related to FM severity and symptomatology. HGs testing could be used as a complementary tool in the assessment and monitoring of FM. Further research on male FM patients is needed to confirm or contrast these findings.

Clin Exp Rheumatol (2010 Nov-Dec) 28(6 Suppl 63):S78-81

BARTELS EM, DREYER L, JACOBSEN S, JESPERSEN A, BLIDDAL H, DANNESKIOLD-SAMSOE B

FIBROMYALGI, DIAGNOSTIK OG PRAEVALENS. KAN KONSFORSKELLEN FORKLARES?

Translation:

[FIBROMYALGIA, DIAGNOSIS AND PREVALENCE. ARE GENDER DIFFERENCES EXPLAINABLE?]

Most non-inflammatory musculoskeletal diseases are more common in women than in men. Fibromyalgia is characterised by chronic generalised muscle pain. The male:female ratio is 1:9. Interacting factors including genetic, hormonal, environmental and behavioural elements may cause this condition, and there are possibly subgroups of which one has shown to be treatable. A different pathogenetic appearance in the two sexes may also be present. The gender difference may partly be explained by the fact that pressure pain test in tender points forms part of the diagnosis. This may leave some male fibromyalgia patients unrecognized.

Ugeskr Laeger (2009 Nov 30) 171(49):3588-92

BUSKILA D, NEUMANN L, ALHOASHLE A, ABU-SHAKRA M
FIBROMYALGIA SYNDROME IN MEN

OBJECTIVE: Fibromyalgia syndrome (FMS) is uncommon in men and data on its characteristics and severity are limited. The current study was undertaken to determine whether the clinical characteristics and the spectrum of this disorder are similar in men and women. **METHODS:** Forty men with FMS were matched with 40 women by age and educational level. All subjects were asked about the presence and severity (assessed by visual analog scale) of FMS symptoms; a count of 18 tender points was conducted by thumb palpation, and tenderness thresholds were measured by dolorimetry. Psychological status was assessed by the anxiety and depression subscales of the revised Arthritis Impact Measurement Scales. Quality of life was evaluated by two scales, QOL-16 and SF-36, and physical function was measured by the Fibromyalgia Impact Questionnaire. **RESULTS:** Men with FMS reported more severe symptoms than women, decreased physical function, and lower quality of life. Women had lower tender thresholds than men; however their mean point counts were similar. **CONCLUSION:** Although FMS is uncommon in men, its health outcome in our study population was worse than in women. Further studies in larger samples and in diverse ethnocultural populations are needed to confirm this observation.
Semin Arthritis Rheum (2000 Aug) 30(1):47-51

COHEN H, NEUMANN L, ALHOSSHLE A, KOTLER M, ABU-SHAKRA M, BUSKILA D
ABNORMAL SYMPATHOVAGAL BALANCE IN MEN WITH FIBROMYALGIA

OBJECTIVE: It is possible that there are differences in clinical manifestations between men and women with fibromyalgia syndrome (FM), especially in autonomic dysfunction; we assessed the interaction between the sympathetic and parasympathetic systems in postural change in men with FM using power spectral analysis (PSA) of heart rate variability (HRV), and investigated the pathogenesis of the orthostatic intolerance. **METHODS:** We studied 19 men with FM and 19 controls matched for age and sex. A high resolution electrocardiogram was obtained in supine and standing postures during complete rest. Spectral analysis of R-R intervals was done by the fast Fourier transform algorithm. **RESULTS:** PSA of HRV revealed that men with FM at rest are characterized by sympathetic hyperactivity and concomitantly reduced parasympathetic activity. During postural changes, male patients demonstrated an abnormal sympathovagal response. These results provide the physiological basis for the orthostatic intolerance in men with FM. **CONCLUSION:** This report of autonomic dysfunction in men with FM revealed an abnormal autonomic response to orthostatic stress. This abnormality may have implications regarding the symptoms of FM.
J Rheumatol (2001 Mar) 28(3):581-9

DANNECKER EA, KNOLL V, ROBINSON ME
SEX DIFFERENCES IN MUSCLE PAIN: SELF-CARE BEHAVIORS AND EFFECTS ON DAILY ACTIVITIES

Women have a higher prevalence of fibromyalgia and myofascial pain than men, but sex differences in muscle pain are inconsistently detected. We examined sex differences in ratings and effects of recalled and experimentally-induced muscle pain. In study 1 (n=188), participants completed a questionnaire about recalled muscle pain. In study 2 (n = 55), participants described

muscle pain from an exercise stimulus across 3 days by telephone. Muscle pain ratings, self-care behaviors for muscle pain, and effects of muscle pain on activities were measured. No significant sex differences were found except that women tended to view exercise as more effective for decreasing muscle pain than men ($F(1, 187) = 5.43, P = .02, \eta^2(2) = .03$), fewer women performed exercise for induced muscle pain than men, and women's activity interference was significantly higher than men's at the third day after exercise ($F(2, 42) = 6.54, P = .01, \eta^2(2) = .14$). These findings support the absence of meaningful sex differences in muscle pain ratings. However, additional investigations are needed that consider the daily activities completed by people and the prevalence and incidence of performing a wide range of self-care behaviors for pain.

PERSPECTIVE: These studies support that sex differences are not present in recalled and experimentally-induced muscle pain ratings. Therefore, we must be cautious about generalizing the musculoskeletal pain literature to muscle pain. Additional research is needed to interpret potential sex differences in self-care behaviors for muscle pain and activity interference from muscle pain.

J Pain (2008 Mar) 9(3):200-9

GAROFALO JP, LAWLER C, ROBINSON R, MORGAN M, KENWORTHY-HEINIG T
THE ROLE OF MOOD STATES UNDERLYING SEX DIFFERENCES IN THE PERCEPTION AND TOLERANCE OF PAIN

While sex differences in pain reporting are frequently observed, the reasons underlying these differences remain unclear. The present study examined sex differences in self-report and physiological measures of pain threshold and tolerance following the administration of two laboratory pain-induction tasks. The primary study aim centered on determining whether repeated exposure to such tasks would yield sex differences in terms of pain threshold and tolerance. In addition, it was hypothesized that if such differences did exist, negative mood states might account for changes in pain ratings, threshold, and/or tolerance in subsequent exposure to noxious stimuli. Recruited from a convenience sample, 66 participants (44 female and 22 male) were exposed to both thermal and cold noxious stimuli at three separate times, while psychophysiological and self-report data were collected. Because women outnumbered men 2:1, Fisher z transformations were performed to determine whether the observed associations between mood states and pain ratings differed. We found stronger associations between fatigue and thermal-heat pain ratings for men at their first and third exposure to the pain task compared to women ($z = 2.11, P < 0.05; z = 3.14, P < 0.001$, respectively). Results indicated that women evidenced greater pain tolerance than men on both a behavioral and physiological level; however, they reported greater pain severity than men. Fatigue was also found to be particularly important to reports of pain severity in men and pain tolerance in response to noxious stimuli for women. Possible pathways in which mood states influenced these endpoints are discussed.

Pain Pract (2006 Sep) 6(3):186-96 [Comment in: *Pain Pract*. 2006 Sep;6(3):151-2]

GREEN CR, HART-JOHNSON T
THE IMPACT OF CHRONIC PAIN ON THE HEALTH OF BLACK AND WHITE MEN

Persistent pain, disability, and depression are hallmarks for chronic pain. While disparities based upon race, gender, and class are documented, little is known about pain disparities in minority men. This investigation examines black (6.2%) and white (93.8%) men (N=1650) presenting for initial assessment at a tertiary care pain center. Racial comparisons utilized analysis of variance; all variables of interest were then placed in a theoretical model using path analysis. The model included race, age, education, neighborhood income, marital status, litigation, substance use, and

high blood pressure as predictors and pain, depression, affective distress, posttraumatic stress disorder (PTSD), and disability as outcomes. Black race was associated with lower neighborhood income, education and marriage rates, and higher rates of litigation and high blood pressure. Black men also had higher pain (affective and miscellaneous), disability, and depression. Path analysis found black race was a direct predictor of greater pain, and through pain, was an indirect predictor of depression, affective distress, PTSD, and disability. Path analysis confirmed the complexity of relationships and supported using techniques to understand these relationships. Our data highlight disparities in the pain experience for black men. They also elucidate potential mechanisms through which disparities work in vulnerable and understudied populations.

J Natl Med Assoc (2010 Apr) 102(4):321-31

HIRSH AT, WAXENBERG LB, ATCHISON JW, GREMILLION HA, ROBINSON ME
EVIDENCE FOR SEX DIFFERENCES IN THE RELATIONSHIPS OF PAIN, MOOD, AND DISABILITY

Disability demonstrates strong univariate associations with pain and negative mood. These relationships are more complex at the multivariate level and might be further complicated by sex differences. We investigated sex differences in the relationships of pain and negative mood to overall disability and to disability in specific functional domains. One hundred ninety-seven consecutive patients with low back, myofascial, neck, arthritis, and fibromyalgia pain were recruited from university pain clinics and completed measures of disability and negative mood. Overall disability and disability in voluntary activities were significantly associated with pain and negative mood (factor score) for both sexes. Significant sex differences emerged in the strength of the disability-mood relationship, with women evincing a stronger relationship. Disability in obligatory activities was also significantly related to pain and negative mood for both sexes; however, there were no sex differences in the strength of these relationships. Mediation analyses indicated that, in men, negative mood partially mediated the relationship between pain and both overall disability and disability in voluntary activities; mediation was not supported for disability in obligatory activities. In women, negative mood fully mediated the relationship between pain and all 3 types of disability. These data suggest that disability is more directly related to pain in men. In women, the effect of pain on disability appears to operate through negative mood. **PERSPECTIVE:** Results of this study demonstrate that sex differences exist in the relationships of pain, mood, and disability. Men and women might thus benefit from treatment interventions that differentially target these variables.

J Pain (2006 Aug) 7(8):592-601

KEOGH E, HERDENFELDT M
GENDER, COPING AND THE PERCEPTION OF PAIN

Research consistently indicates that gender differences exist in pain perception, with females typically reporting more negative responses to pain than males. It also seems as if males and females use and benefit from different coping strategies when under stress; females seem to prefer emotion-focused coping, whereas males prefer sensory-focused coping. Unfortunately, experimental research that examines such differences in the context of pain has not yet been adequately investigated. The aim of the current study was, therefore, to determine whether gender differences would be found in the effect that sensory-focused and emotion-focused coping instructions have on cold pressor pain experiences. Participants consisted of 24 male and

26 female healthy adults, all of whom reported no current pain. A consistent pattern of effects was found, over both behavioural and self-report measures of pain. Compared to females, males exhibited less negative pain responses when focusing on the sensory component of pain (i.e. increased threshold, tolerance and lower sensory pain). Furthermore, compared to sensory focusing, emotional focusing was found to increase the affective pain experience of females. Together these results confirm that important differences exist between men and women in the effects pain coping instructions have on the experience of pain. The implications of such findings for research and practice are discussed.

Pain (2002 Jun) 97(3):195-201

MCBETH J, PYE SR, O'NEILL TW, MACFARLANE GJ, TAJAR A, BARTFAI G, BOONEN S, BOUILLON R, CASANUEVA F, FINN JD, FORTI G, GIWERCMAN A, HAN TS, HUHTANIEMI IT, KULA K, LEAN ME, PENDLETON N, PUNAB M, SILMAN AJ, VANDERSCHUEREN D, WU FC
MUSCULOSKELETAL PAIN IS ASSOCIATED WITH VERY LOW LEVELS OF VITAMIN D IN MEN: RESULTS FROM THE EUROPEAN MALE AGEING STUDY

INTRODUCTION: A study was undertaken to test the hypothesis that musculoskeletal pain is associated with low vitamin D levels but the relationship is explained by physical inactivity and/or other putative confounding factors. **METHODS:** Men aged 40-79 years completed a postal questionnaire including a pain assessment and attended a clinical assessment (lifestyle questionnaire, physical performance tests, 25-hydroxyvitamin D3 (25-(OH)D) levels from fasting blood sample). Subjects were classified according to 25-(OH)D levels as 'normal' (> or = 15 ng/ml) or 'low' (< 15 ng/ml). The relationship between pain status and 25-(OH)D levels was assessed using logistic regression. Results are expressed as ORs and 95% CIs. **RESULTS:** 3075 men of mean (SD) age 60 (11) years were included in the analysis. 1262 (41.0%) subjects were pain-free, 1550 (50.4%) reported 'other pain' that did not satisfy criteria for chronic widespread pain (CWP) and 263 (8.6%) reported CWP. Compared with patients who were pain-free, those with 'other pain' and CWP had lower 25-(OH)D levels (n=239 (18.9%), n=361 (23.3) and n=67 (24.1%), respectively, p<0.05). After adjusting for age, having 'other pain' was associated with a 30% increase in the odds of having low 25-(OH)D while CWP was associated with a 50% increase. These relationships persisted after adjusting for physical activity levels. Adjusting for additional lifestyle factors (body mass index, smoking and alcohol use) and depression attenuated these relationships, although pain remained moderately associated with increased odds of 20% of having low vitamin D levels. **CONCLUSIONS:** These findings have implications at a population level for the long-term health individuals with musculoskeletal pain.

Ann Rheum Dis (2010 Aug) 69(8):1448-52

PAULSON M, NORBERG A, SODERBERG S
LIVING IN THE SHADOW OF FIBROMYALGIC PAIN: THE MEANING OF FEMALE PARTNERS' EXPERIENCES

The aim of this study was to elucidate the meaning of being a female partner living with a man with fibromyalgic pain. Fourteen partners were interviewed about the meaning of their experiences, using a narrative approach. A phenomenological hermeneutic method, inspired by the French philosopher Ricoeur, was used to interpret the interview text. The structural analysis is presented in three major themes: struggling to give support and comfort, struggling to keep going on, and experiencing lack of understanding and support. The findings elucidate that the meaning of living with a man with fibromyalgic pain meant living a life strongly influenced by the man's illness and

in the shadow of the man's pain. Taking daily life for granted was interrupted and restricted family and social life. Prominent in this study was the frustration partners felt as a result of men's reluctance to communicate. This led to feelings of being excluded from men's emotions. The responsibility day in and day out meant that women's own caring and tenderness were replaced, which brought about an almost constant sense of fatigue. Women became drained by the long duration of men's illness. This gave them a feeling of being alone, although they were a couple. Gaining comfort outside the family helped partners to reach a new insight and appreciation for life, which was viewed from a renewed perspective. This involved feelings of both togetherness and separateness in the relationship. The findings also consider the lack of support from the health care system for female partners living with men with fibromyalgic pain.

J Clin Nurs (2003 Mar) 12(2):235-43

PAULSON M, NORBERG A, DANIELSON E

MEN LIVING WITH FIBROMYALGIA-TYPE PAIN: EXPERIENCES AS PATIENTS IN THE SWEDISH HEALTH CARE SYSTEM

BACKGROUND: Individuals with fibromyalgia (FM) frequently use health care services and experience only short-term improvements. They often feel that health care staff do not take them seriously. This increases the burden of living with the illness. **AIM:** To describe how men living with fibromyalgia-type pain experienced being patients in the Swedish health care system. **METHOD:** Narrative interviews with 14 men who fulfilled the American College of Rheumatology criteria for classification of fibromyalgia. Content analysis was used when analysing the data. **RESULTS:** The results are described using five themes. Theme 1 'Feeling afraid of being looked upon as being a whiner' highlights how the men endured a lot of pain before they sought health care, and how difficult it was to find a receptive listener. Theme 2 'Feeling like a guinea pig' shows that the men's feelings were twofold; they wanted examinations, even if these made them feel that they were being exposed to numerous treatments without any cure. Theme 3 'Feeling hopeful' describes the hope for a cure after having been referred to a specialist clinic. Theme 4 'Feeling neglected' illustrates being looked upon as an uninteresting patient and theme 5 'Feeling no recovery' illustrates the pain relief they gained, but not the actual cure. **CONCLUSION:** Men with FM type pain experienced a long wait before treatment at a specialist clinic as well as no continuity and follow-ups in primary care and general hospitals. Encounters with engaged and skilful staff promoted the men's well-being despite the fact that no cure was available. Not being respected led to a feeling of being neglected despite the care received. Thus, the men had to accept the fact that they would never recover.

J Adv Nurs (2002 Oct) 40(1):87-95

PAULSON M, DANIELSON E, SODERBERG S

STRUGGLING FOR A TOLERABLE EXISTENCE: THE MEANING OF MEN'S LIVED EXPERIENCES OF LIVING WITH PAIN OF FIBROMYALGIA TYPE

Chronic pain is a major health problem in Sweden because of its consequences in daily life. Fourteen men with fibromyalgia-type pain were interviewed regarding their experiences. A phenomenological hermeneutic method was used to interpret the transcribed interviews. Three major themes emerged: experiencing the body as an obstruction, being a different man, and striving to endure. Overall, the meaning of men's lived experience of chronic pain was experienced as change in the body, self, and relationships. Striving to live life required achieving balance during both calm and difficult phases of the illness--struggling for a tolerable existence. Information from

this study could provide guidelines for health care staff members to give empathic and supportive care to men living with a long-term illness.

Qual Health Res (2002 Feb) 12(2):238-49

STAUD R, ROBINSON ME, VIERCK CJ, PRICE DD

DIFFUSE NOXIOUS INHIBITORY CONTROLS (DNIC) ATTENUATE TEMPORAL SUMMATION OF SECOND PAIN IN NORMAL MALES BUT NOT IN NORMAL FEMALES OR FIBROMYALGIA PATIENTS

Diffuse noxious inhibitory control (DNIC) is part of a central pain modulatory system that relies on spinal and supraspinal mechanisms. Previous studies have shown that fibromyalgia (FMS) patients are lacking DNIC effects on experimental pain, compared to normal control (NC) subjects. Because DNIC has a greater effect on second pain than on first pain, we hypothesized that wind-up (WU) of second pain should be attenuated by a strong conditioning stimulus. Thus, we compared DNIC's effect on WU in three groups of subjects: 11 NC males, 22 NC females, and 11 FMS females. To separately assess the contributions of distraction related mechanisms to inhibition of second pain, we designed the experiment in such a way that directed the subjects' attention to either the test or conditioning stimulus. Repeated heat taps to the thenar surface of the right hand were used as test stimuli to generate WU of second pain. Immersion of the left hand into a hot water bath was the conditioning stimulus. As previous experiments have shown, DNIC requires a strong conditioning stimulus for pain attenuation, which may be at least partly dependent on a distraction effect. DNIC significantly inhibited thermal WU pain in normal male subjects, but adding distraction to the DNIC effect did not increase the extent of this inhibition. In contrast, neither DNIC nor DNIC plus distraction attenuated thermal WU pain in female NCs. DNIC plus distraction but not DNIC alone produced significant inhibition of thermal WU pain in female FMS patients. Our results indicate that DNIC effects on experimental WU of second pain are gender specific, with women generally lacking this pain-inhibitory mechanism.

Pain (2003 Jan) 101(1-2):167-74

TAJAR A, O'NEILL TW, LEE DM, O'CONNOR DB, CORONA G, FINN JD, BARTFAI G, BOONEN S, CASANUEVA F, FORTI G, GIWERCMAN A, HAN TS, HUHTANIEMI IT, KULA K, LEAN ME, PENDLETON N, PUNAB M, PURANDARE N, SILMAN AJ, VANDERSCHUEREN D, WU FC, MCBETH J

THE EFFECT OF MUSCULOSKELETAL PAIN ON SEXUAL FUNCTION IN MIDDLE-AGED AND ELDERLY EUROPEAN MEN: RESULTS FROM THE EUROPEAN MALE AGEING STUDY

OBJECTIVE: To determine whether musculoskeletal pain was associated with impaired sexual function in a population sample of middle-aged and older men. **METHODS:** The European Male Ageing Study (EMAS), a multicenter population-based study of men aged 40-79 years, was used to investigate this hypothesis. A questionnaire asked about the presence and duration of musculoskeletal pain, allowing subjects to be classified into 1 of 3 groups: those reporting chronic widespread pain (CWP), those reporting pain but not CWP ("some pain"), and those with no pain. Subjects completed a sexual function questionnaire from which 3 domains were considered: overall sexual functioning (OSF), sexual functioning-related distress (SFD), and change in sexual functioning compared to 1 year ago (CSF). **RESULTS:** A total of 3206 men [mean age 60 (SD 11)

yr] had complete data on pain status. Of these, 8.7% had CWP and 50.34% had "some pain." Pain was associated with lower OSF, and higher SFD and CSF scores. After adjustment for putative confounding factors, the associations became non-significant with OSF and CSF but persisted for SFD. Associations between pain status and some items within the sexual functioning domains, including frequency of sexual intercourse, frequency of morning erections, sexual desire, and orgasm were also significant, although these associations varied by pain status. **CONCLUSION:** Musculoskeletal pain is associated with several aspects of sexual functioning. These relationships differ depending on the extent of the pain (chronic or not) and are also largely confounded by other health-related factors, primarily depression.

J Rheumatol (2011 Feb) 38(2):370-7

VISURI T, LINDHOLM H, LINDQVIST A, DAHLSTROM S, VILJANEN A

CARDIOVASCULAR FUNCTIONAL DISORDER IN PRIMARY FIBROMYALGIA: A NONINVASIVE STUDY IN 17 YOUNG MEN

Cardiovascular functional stability was studied in 17 young men (20-year-old conscripts) with the symptoms of primary fibromyalgia (PF). They were compared to 20 medical students of the same age. The subjects underwent an orthostatic test, deep breathing test, Valsalva maneuver, and a handgrip test. They were evaluated by an autoanamnesic questionnaire on vegetative symptoms and laboratory tests on blood chemistry. The heart rate of the PF group after 8 min of active standing was 32 +/- 15 beats/min greater than at supine rest. The corresponding figure for the controls was 23 +/- 7 beats/min ($p = 0.001$). Twelve conscripts with PF (71%) presented sympatheticotonic cardiovascular reaction on the orthostatic test ($p < 0.001$). Four of these sympatheticotonic conscripts and two other conscripts (total 35%) had an abnormal high index of dystonic symptoms ($p = 0.01$). The results suggest that young men with symptoms of PF have not only cardiovascular dystonic symptoms but also increased sympathetic nervous reactivity of the cardiovascular system.

Arthritis Care Res (1992 Dec) 5(4):210-5

YUNUS MB, INANICI F, ALDAG JC, MANGOLD RF

FIBROMYALGIA IN MEN: COMPARISON OF CLINICAL FEATURES WITH WOMEN

OBJECTIVE: To describe possible differences between male and female patients with fibromyalgia syndrome (FM) in their clinical manifestations. **METHODS:** Five hundred thirty-six consecutive patients with FM (469 women, 67 men) seen in a university rheumatology clinic and 36 healthy men without significant pain seen in the same clinic were included in the study. Data on demographic and clinical features were gathered by a standard protocol. Tender point examination was performed by the same physician. Level of significance was set at $p < \text{or} = 0.01$. **RESULTS:** Several features were significantly ($p < \text{or} = 0.01$) milder or less common among men than women, including number of tender points (TP), TP score, "hurt all over," fatigue, morning fatigue, and irritable bowel syndrome (IBS). The total number of symptoms was also fewer among men and approached significance ($p = 0.02$) by parametric test, but reached significance ($p = 0.001$) by nonparametric analysis. All clinical and psychological symptoms as well as TP were significantly ($p < 0.01$) more common or greater in male patients with FM than healthy male controls, with the exception of IBS ($p = 0.03$). Patient assessed global severity of illness, Health Assessment Questionnaire disability score, and pain severity were similar in both sexes. **CONCLUSION:** Male patients with FM had fewer symptoms and fewer TP, and less common "hurt all over," fatigue,

morning fatigue, and IBS, compared with female patients. Stepwise logistic regression showed significant differences between men and women in number of TP ($p < 0.001$).
J Rheumatol (2000 Feb) 27(2):485-90

YUNUS MB, KHAN MA, RAWLINGS KK, GREEN JR, OLSON JM, SHAH S
GENETIC LINKAGE ANALYSIS OF MULTICASE FAMILIES WITH FIBROMYALGIA SYNDROME

OBJECTIVE: Based on the reports of familial aggregation of fibromyalgia (FM) syndrome, we investigated its possible genetic linkage to HLA by studying multicase families. **METHODS:** Forty Caucasian multicase families with a diagnosis of FM (American College of Rheumatology criteria) in 2 or more first degree relatives were investigated. Eighty-five affected and 21 unaffected members of 41 sibships were studied. Depression symptomology was assessed by Zung Self-rating Depression Scale (SDS). HLA typing was performed for A, B, and DRB 1 alleles, and haplotypes were determined with no knowledge of the subject's diagnosis. We investigated genetic linkage to the HLA region by evaluating sibships in multicase families. **RESULTS:** Sibship analysis showed significant genetic linkage of FM to the HLA region ($p = 0.028$). Subgroup analysis was also performed for 17 families where the proband was also noted to have depression (with an SDS index value ≥ 60). We found that the presence of depression did not influence the observed results ($p = 0.22$). **CONCLUSION:** Our study of 40 multicase families confirms existence of a possible gene for FM that is linked with the HLA region. Our results should be regarded as preliminary and their independent confirmation by other studies is warranted.
J Rheumatol (1999 Feb) 26(2):408-12