FIBROMYALGIA RESEARCH REVIEW

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IS FIBROMYALGIA A RHEUMATOLOGIC DISORDER?

The American College of Rheumatology has established two criteria in order to classify fibromyalgia (FM) - chronic widespread pain in all four quadrants of the body and the presence of 11/18 tender points. However additional symptoms not currently required for a diagnosis of FM, including sleep disturbance, irritable bowel and fatigue, display substantial overlap with other medically unexplained conditions such as chronic fatigue syndrome. Although the tender points used to classify fibromyalgia reproduce pain under pressure, they are not thought to contribute to FM symptoms. And whilst the image of a woman with superimposed tender point 'dots' remains synonymous with FM, tenderness actually extends throughout the whole body. Indeed there is evidence that tender points are simply locations of the body at which everyone is generally more tender. Greater pain in response to applied pressure is experienced by fibromyalgia sufferers due to their decreased pain threshold, caused by abnormal central nervous system (CNS) pain processing mechanisms. Thus a number of researchers, including the Norwegian Gergard Endresen writing in Rheumatology International, believe that tender point examination should be excluded from a diagnosis of fibromyalgia. Moreover Endresen believes that since abnormal CNS pain processing mechanisms, combined with a decreased ability to respond to physical and emotional stress may be at the root of most FM symptoms, fibromyalgia should not be classed as a rheumatologic disorder. The division of Rheumatology deals with disorders that can be described in anatomical, mechanical or immunological terms, thus fibromyalgia or chronic fatigue patients may instead benefit from a multi-discipline treatment strategy covering several medical specialties under the direction of general physicians.

Endresen, G.K., 2007. "Fibromyalgia: a rheumatologic diagnosis?" Rheumatol Int 27, 999-1004. Department of Rheumatology, The National Hospital Rikshospitalet, Forskningsvn. 2, Block B, 0027 Oslo, Norway.

FIBROMYALGIA ASSOCIATED WITH GREATER PYSCHOLOGICAL STRESS THAN RHEUMATOID ARTHRITIS.

Potential triggers of fibromyalgia range from physical or emotional trauma to viral infection. However an overactive and perfectionist lifestyle may also play a role in FM development. Fibromyalgia patients have to face a daily 'invisible illness', leading to chronic psychophysical suffering. Indeed the aim of a study published in Acta

Biomedicine by a team of researchers from Italy was to determine personality profiles associated with fibromyalgia. Negative thought processes frequent in FM patients include low self-esteem, 'catastrophising' and anger towards oneself. Furthermore, psychological distress is more severe among FM sufferers than rheumatoid arthritis (RA) patients, with a strong link between post traumatic stress disorder and FM. The authors even propose that both psychiatric disorders and fibromyalgia may have a common genetic cause, in particular since alterations in genes involved in serotonin metabolism have been documented for both conditions. However the low pain threshold characteristic of FM is not found in psychiatric disorders, suggesting that there are fundamental differences in the neurobiology of fibromyalgia and psychiatric disorders that require careful research.

Fietta, P., Fietta, P. and Manganelli, P., 2007. "Fibromyalgia and psychiatric disorders." Acta Biomed 78, 88-95.
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IS HEPATITUS C VIRUS LINKED TO FIBROMYALGIA DEVELOPMENT?

Viruses are infectious agents that must invade cells in order to multiply. Viral infections may be short lived, where the virus is rapidly cleared by the immune system, or infection may persist for years, as is the case for HIV or herpes virus. Strikingly, fibromyalgia development is more frequent in patients infected with some viruses, leading to the hypothesis that viral infection may contribute to FM development. Hepatitis C virus (HCV) infects liver tissue, where it persists and can lead to chronic liver disease or liver cancer. Whilst a high prevalence of fibromyalgia (5-19%) among HCV patients has been suggested by a number of studies, the link between HCV infection and fibromyalgia remains controversial. Given the discrepancies in results from different geographical areas, a team of researchers from Italy aimed to study the incidence of HCV among Italian FM patients, reporting their findings in the Clinical Rheumatology journal. Serum from 152 fibromyalgia sufferers was tested by a variety of methods for the presence of antibodies recognising HCV, which are indicative of HCV infection. However HCV prevalence was not found to be statistically different between FM patients and a control group of non-sufferers. Thus HCV appears not to be linked to FM, at least among the Italian population. Although these results are in stark contrast to the known association between other rheumatic disorders and HCV, this may reflect the non-inflammatory nature of fibromyalgia and the doubts relating to its classification as a rheumatologic disorder (see previous article).

Palazzi, C., D'Amico, E., D'Angelo, S., Nucera, A., Petricca, A. and Olivieri, I., 2007. "Hepatitis C virus infection in Italian patients with fibromyalgia." Clin Rheumatol. Oct 18 [Epub ahead of print]. Division of Rheumatology, Villa Pini Clinic, Chieti, Italy.

MUSCLE STRENGTHENING AND AEROBIC EXERCISE ARE EQUALLY EFFECTIVE IN IMPROVING FIBROMYALGIA SYMPTOMS.

Fibromyalgia patients may often be aerobically unfit, with poor muscle strength and flexibility resulting from pain-related inactivity. However it is widely accepted that exercise is beneficial for FM sufferers. While the majority of research studies have focused on aerobic exercise programs, less is known about the effect of muscle strengthening exercises on fibromyalgia. Thus researchers from Turkey aimed to compare the effect of aerobic exercise (AE) versus muscle strengthening exercises (SE) on FM symptoms. As reported in Rheumatology International, 30 women with FM were randomly assigned to an AE or SE group. Aerobic exercise consisted of treadmill walking for 20-30 minutes, with exercise intensity adjusted according to heart rate. In contrast strength training was conducted in a group setting, and consisted of upper and lower limb strengthening exercises, which gradually increased in number of repetitions and intensity as the weeks progressed. Subjects in both groups performed warm up/cool down stretches, and exercised three times a week for 8 weeks. The outcome of the exercise program was measured by a number of tests, including questionnaires analysing psychological health and quality of life, a 6-min walk test and a tender point count. Although none of the participants regularly exercised before the study, no patients experienced worsening of symptoms due to exercise. In contrast both groups experienced significant improvements in pain, tender point count, sleep, cardiovascular fitness and depression. Aerobic and strengthening exercises were equally effective in improving fibromyalgia symptoms, although the strength training group seemed to benefit from the group-setting, demonstrating improved emotional well-being. No follow-up study was carried out in order to determine whether participants were able to continue their exercise programs at home, however this research emphasises the benefits of gentle aerobic or muscle strengthening exercises for all aspects of fibromyalgia syndrome.

Bircan, C., Karasel, S.A., Akgun, B., El, O. and Alper, S., 2007. "Effects of muscle strengthening versus aerobic exercise program in fibromyalgia." Rheumatol Int. Nov 3 [Epub ahead of print].

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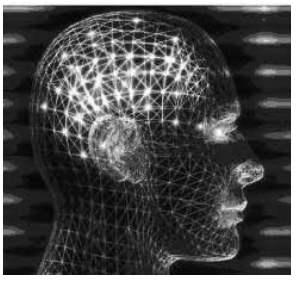
BRAIN WAVES REVEAL INTENSITY OF PAIN.

It is widely accepted that fibromyalgia patients display a low sensitivity to painful stimuli. However pain is an extremely subjective sensation, and chronic pain sufferers struggle for acceptance of their condition. Recent research suggests that recordings from electrodes in the human brain may be able to measure the intensity of pain for the first time. While previous studies have only been able to identify human brain cells that signal pain, new research has identified specific brain waves emanating from two regions, deep within the brain of a patient in pain, which correspond to pain intensity. The longer the brain waves or 'pain spindles' last, the greater the pain experienced by the patient. The findings, presented by Morten Kringelbach of the University of Oxford at the Society for Neuroscience meeting in November, offer the first reliable scientific measure of the differing degrees of pain felt by sufferers. Pain monitoring by this technique could lead to greater acceptance of chronic pain and refine treatments for pain, i.e. deep brain stimulation. Current work is now focused on recording the 'pain spindles' using less invasive techniques in order to allow more widespread pain monitoring.

Nature 450, 329 (2007). [Published online 14 November 2007].



LINK FOUND BETWEEN RESTLESS LEG SYNDROME AND INTESTINAL BACTERIAL OVERGROWTH.

Fibromyalgia is associated with a number of co-existing conditions, including irritable bowel syndrome (IBS) and restless leg syndrome (RLS). Indeed the prevalence of RLS among FM sufferers has been suggested to be as high as 31%. RLS is characterised by abnormal sensations deep in the legs, which include cramping, itching, aching, heaviness and tingling. Symptoms are triggered by rest, may contribute to sleep disorders, and often improve temporarily with movement. On the other hand, the overgrowth of bacteria in the small intestine has been suggested as an alternative explanation for the persistence of various hypersensitivity syndromes, such as IBS or fibromyalgia. Thus a team of researchers from Washington sought to investigate the link between small intestinal bacterial overgrowth and RLS in patients with IBS/fibromyalgia. As reported in the Digestive Diseases and Sciences journal, eleven patients with confirmed RLS tested positive for small intestinal bacterial overgrowth by detection of high methane and hydrogen gas levels in breath samples. These patients were subsequently treated for 10 days with a broad-spectrum antibiotic, combined with probiotic therapy. Ten patients experienced significant improvement in RLS symptoms, as well as global gastrointestinal improvement. However further research is needed to unravel the controversial link between small intestinal bacterial overgrowth and restless leg syndrome in patients with IBS or fibromyalgia.

Weinstock, L.B., Fern, S.E. and Duntley, S.P., 2007. "Restless Legs Syndrome in Patients with Irritable Bowel Syndrome: Response to Small Intestinal Bacterial Overgrowth Therapy." Dig Dis Sci. Oct 13 [Epub ahead of print].

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Researchers have discovered specific brain waves, dubbed 'pain spindles', which correspond to the intensity of pain experienced by chronic pain sufferers.