

FIBROMYALGIA RESEARCH REVIEW

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FIBROMYALGIA - WHAT'S IN A NAME?

Doctors in the early part of the 20th century used the term “fibrositis” to describe any form of muscular rheumatism. In spite of the wide range of symptoms attributed to fibrositis, this “catch-all” diagnosis would remain in place until the name fibromyalgia was first introduced in 1976. The word fibromyalgia is derived from the Latin *fibro*, which refers to the fibrous tissue of the tendons and ligaments, the Greek *myo*, meaning muscle, and *algia*, signifying pain. The term fibromyalgia syndrome (FMS) reflects the presence of multiple symptoms with an unknown cause. In order to investigate the potential benefits or burdens for the patient of receiving a diagnosis of fibromyalgia, a team of researchers from Scandinavia interviewed 11 women with FMS. Many of the women had suffered for years before finally receiving a diagnosis of fibromyalgia, therefore an initial response of relief was common. Patients generally felt that the naming of their condition legitimised their symptoms in the eyes of their family. Furthermore, sufferers were also relieved to be diagnosed with a non-degenerative condition. However relief was soon followed by despair, as the women discovered the lack of treatment and disability benefits available for fibromyalgia. Some doctors even lost interest once a diagnosis of fibromyalgia had been given, and dismissed FMS as a “fashion disorder”. Researchers therefore concluded that although the long road to a disputed diagnosis was accompanied by initial relief at receiving a “name”, the naming of fibromyalgia did not help to legitimise their condition in the long run. It would appear that, at least in Scandinavia, the term fibromyalgia might be stigmatised, or not accepted as a real condition by the public and doctors alike. It has even been suggested that the name fibromyalgia syndrome is perhaps inappropriate, given that researchers now believe FMS results from abnormal pain processing, rather than from muscle dysfunction as the term fibromyalgia suggests.

Undeland, M. and Malterud, K., 2007. “The fibromyalgia diagnosis - hardly helpful for the patients?” *Scand J Prim Health Care* 25, 250-5.

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See also this month's front cover article
for more views on the impact of receiving a
diagnosis of fibromyalgia

ALTERATIONS IN A GENE ASSOCIATED WITH SEVERE FIBROMYALGIA SYMPTOMS.

The autonomic nervous system consists of nerves peripheral to the brain and spinal cord, and controls so-called unconscious or “automatic” body functions, including heart rate, digestion, perspiration, blood pressure and respiration. It

acts to balance the “fight-or-flight” reaction that prepares the body for danger when under stress, with “quiet” body functions that return the body to rest. However abnormal functioning of the autonomic nervous system is frequently seen among fibromyalgia syndrome (FMS) patients, particularly in response to stress. Investigators from Spain and Mexico City recently teamed up to investigate a genetic link between autonomic nervous system dysfunction and the severity of FMS symptoms. Blood was taken from 78 Spanish and 57 Mexican FMS patients, and the DNA (genetic material) from each volunteer was isolated. The whole length of human DNA is known as a “genome”, which is further divided into smaller units termed “genes” (the human genome contains over 20 000 genes!). However genes can be likened to a foreign language, which cannot be understood unless it can be translated. In the case of the human body, genes must be translated into proteins or enzymes, which are responsible for all the important reactions occurring in our cells. Researchers in this study looked for tiny changes in the volunteers’ DNA that translated into altered, dysfunctional proteins. Their findings, published in the *Arthritis Research and Therapy* journal, revealed three changes to the DNA in a gene that encodes an important protein involved in the autonomic nervous response. These changes were particularly common in Spanish FMS patients, and were strongly associated with more severe FMS symptoms, suggesting that the defective protein, (the catechol-O-methyl transferase enzyme), increases pain sensitivity. These findings link the suggestion that FMS may be an inherited, genetic disorder with the known autonomic nervous dysfunction in FMS. Further research into the role of this enzyme in FMS may also shed light on the precise way in which the autonomic nervous system is altered in FMS patients.

Vargas-Alarcon, G., Fragoso, J.M., Cruz-Robles, D., Vargas, A., Vargas, A., Lao-Villadoniga, J.L., Garcia-Fructuoso, F., Ramos-Kuri, M., Hernandez, F., Springall, R., Bojalil, R., Vallejo, M. and Martinez-Lavin, M., 2007. “Catechol-O-Methyl Transferase (COMT) gene haplotypes in Mexican and Spaniard patients with fibromyalgia.” *Arthritis Res Ther* 9, R110.

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IS FIBROMYALGIA A CARDIOVASCULAR DISEASE?

The cardiovascular system consists of the heart and two networks of blood vessels, and acts to circulate blood around the body. While the cardiovascular system may seem unrelated to fibromyalgia symptoms, a research group from Brazil have proposed that fibromyalgia syndrome (FMS) could in fact be a cardiovascular disease. This stems from recent findings that FMS and chronic fatigue syndrome (CFS) patients suffer from a cardiovascular condition known as dysautonomia. Dysautonomia results from an imbalance of the autonomic nervous system (see previous article), and can cause faintness and dizziness after standing up, a condition similar to postural orthostatic tachycardia syndrome (POTS). Studies have shown that both POTS and CFS patients experience reduced blood flow to the heart and brain on standing. Blood appears to pool in the extremities of the body due to alterations in the small blood vessels. Other symptoms of dysautonomia include aches and pains, fatigue, tachycardia (increased heart rate), digestive complaints, excessive sweating, anxiety, tingling and depression. It is perhaps no coincidence that a large number of these symptoms are identical to those experienced by FMS, CFS, irritable bowel syndrome and Gulf War syndrome patients. These conditions form part of a group known as the central sensitisation syndromes, in which a heightened state of pain is thought to result from abnormal functioning of the central nervous system (brain and spinal cord). It is thus possible that abnormalities of the vascular system supplying the brain, (the neurovascular system), cause central sensitisation. This is an interesting theory

that ties together the known abnormal functioning in FMS of both the central and autonomic nervous systems, however requires further experimental evidence in order to prove that FMS is indeed a cardiovascular disease.

Felix, F. H. and J. B. Fontenele (2007). "Is fibromyalgia a cardiovascular disease? A comment on Martinez-Lavin's review 'Stress, the stress response system, and fibromyalgia'." *Arthritis Res Ther* 9, 404.

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