

# Fibromyalgia, myofascial pain syndrome, chronic pain syndrome, and somatization disorder: Is there a connection?

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**T**his paper elucidates the commonality of connections between fibromyalgia, myofascial pain syndrome, chronic pain syndrome and somatization disorder. These different conditions along with their clinical features are described. Also the article describes the historical background of how the different terminologies for pain syndromes have changed over the years. We have tried to show that in all these syndromes there is a lot of commonality of clinical presentations. A patient at one stage may present with myofascial pain syndrome who may at a later stage fulfil the criteria for fibromyalgia, chronic pain syndrome, somatization disorder or chronic pain disorder. The diagnostic labelling often depends on what stage of the pain process a physician sees the patient and what type of specialist the patient sees at any given point in time. It appears that there is a significant degree of overlap between the different syndromes. Physicians dealing with these syndromes should investigate the psychosocial dysfunction that is often associated with these various pain syndromes.

In North America, pain disability has taken a great toll on the productivity and the quality of life of people who suffer from disorders which result in chronic pain. Fibromyalgia, myofascial pain syndrome, chronic pain syndrome and somatization disorders represent some of the most common conditions that one encounters in clinical practice that result in significant, often long-term pain disability. These chronic pain conditions appear to have in many instances great physical, psychosocial and economic implications for the patient. Frequently the above conditions, when chronic, can be associated with sleep and mood disturbances.

In this paper, I would like to briefly review the clinical features of some of these conditions and come up with some hypotheses as to how these conditions are related to one another.

## FIBROMYALGIA

Fibromyalgia is a form of non-articular

rheumatism characterized by widespread musculoskeletal aching and stiffness associated with tenderness on palpation at characteristic sites called tender points. Fibromyalgia indeed is a syndrome; hence, it is often referred to as fibromyalgia syndrome. In the past it has been called by various names including psychogenic rheumatism and fibrositis syndrome. A few years ago the American College of Rheumatology developed criteria for the diagnosis of fibromyalgia which include a history of widespread pain, and pain in 11 of 18 tender point sites on digital palpation using a force of approximately four kilograms(1). It appears that the American College of Rheumatology developed arbitrary diagnostic criteria which were arrived at by consensus and not from prospective studies in which the outcome was measured.

The old classification of primary and secondary fibromyalgia or fibrositis syndrome has now been abandoned, as the American College of Rheumatology studies did not reveal any significant clinical difference between primary and secondary fibromyalgia in its clinical presentation.

Fibromyalgia is frequently associated with symptoms such as generalized fatigability, morning stiffness and a non-restorative sleep pattern. Frequently the

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patients also have symptoms of anxiety, headaches, dysmenorrhea, irritable bowel syndrome and paresthesias. Non-restorative sleep patterns have been studied in fibromyalgia. Moldofsky et al have found that these patients have a disturbance in stage 4 sleep characterized by superimposition of alpha rhythm (7.5-11 Hz) on slower delta rhythm (0.5-2 Hz) of slow wave sleep(2).

Similar disturbances of sleep pattern have also been observed in chronic pain and were originally described by Hauri and Hawkins in psychiatric patients with symptoms of "a general feeling of chronic somatic malaise and fatigue"(3). Hudson et al (4) as well as Kirmayer et al(5) have found higher incidences of depressive illness in people who suffer from fibromyalgia syndrome.

## MYOFASCIAL PAIN SYNDROME

In this condition with a history of local pain and tenderness associated with vague or diffuse complaints of stiffness, aching, gelling, tightness, numbness, tingling, weakness, and coolness in a localized area of the body, taut bands are found in involved muscles along with tenderness within the bands, giving rise to trigger points. Pressure over trigger points tends to give rise to pain and discomfort remote from the area of the trigger point. Localized muscle twitch responses are elicited on snapping or needling the taut bands in the muscles. Appropriate treatment of trigger points tends to increase the range of motion of the involved muscle. Also autonomic symptoms of vasoconstriction in the area of referred pain are often noted. This condition can be associated with deconditioning, psychosocial dysfunction, anxiety, depression and fear of activity (kinesophobia). This condition can also be associated with a disturbed sleep pattern such as one sees in fibromyalgia. Myofascial pain syndrome may involve a single muscle or a group of muscles in a particular region of the body, or it may be multi-regional and can be of a more generalized type.

In the generalized form of myofascial pain syndrome one may find other associated conditions such as thyroid deficiency, vitamin deficiency, hormonal or nutritional abnormalities, endocrine dysfunction, mechanical, structural or postural abnormalities, vasculitis, sleep disturbance and polyarticular dysfunction(6).

Myofascial pain syndrome can also occur in a generalized form without the associated conditions mentioned above. In other words, it could be a primary muscle problem.

## FIBROMYALGIA AND MYOFASCIAL PAIN SYNDROME: THE CONNECTION

Going back in history an English physician Gowers coined the word "fibrositis"(7). The term fibrositis encompassed a wide variety of pain syndromes thought

to arise from muscle and often accompanied by symptoms of neurasthenia. In 1950, Dr. Janette Travell started to popularize the idea of myofascial pain syndrome and her ideas were adopted by physiatrists and physiotherapists. Travell and Simons wrote a book entitled "Myofascial Pain and Dysfunction: The Trigger Point Manual"(8).

On another related front, a rheumatologist from Toronto, Hugh Smythe, continued with the old concept of fibrositis. His thoughts were published in the bulletin of Rheumatic Diseases(9).

Hugh Smythe, in association with the work by Harvey Moldofsky, was able to demonstrate disturbance in stage 4 sleep with alpha intrusion in fibrositis. With the passage of time "fibrositis" was replaced by the term "fibromyalgia" or "fibromyalgia syndrome". Even today, many physicians tend to use the term "fibrositis" to refer to both myofascial pain syndrome and fibromyalgia syndrome without making a significant distinction between the two syndromes.

Historically, then, fibrositis is composed of two apparent distinct syndromes, the fibromyalgia syndrome and the myofascial pain syndrome. Fibromyalgia syndrome has recently been subjected to an ambitious criteria study(10). Twenty-five investigators in 16 North American cities evaluated 263 patients with presumed fibromyalgia syndrome and 250 control patients with another cause for their musculoskeletal pain. In the final analysis, the best criteria proved to be disarmingly simple and included widespread pain and 11 or more tender points at 18 possible sites. It was found that the sensitivity of these criteria was 85% and the specificity was 81%. Furthermore, in patients who were diagnosed as having primary fibromyalgia syndrome compared to those said to have had secondary fibromyalgia syndrome, there was no significant difference observed. Thus, the distinction between primary and secondary fibromyalgia was abandoned. In other words, the diagnosis of fibromyalgia has been simplified to the degree that a patient who has pain all over and has 11 or more tender points out of 18, is diagnosed as having fibromyalgia syndrome, regardless of other diagnoses or test results.

Yunus et al(11) reviewed the data from three major studies and found that in fibromyalgia syndrome the mean age was 44 years, 90% affected were females and the mean duration of symptoms was 6 years. Friction et al(12) discovered similar findings in myofascial pain syndrome - the mean age was 41 years, 82% affected were females and the mean duration of symptoms was 7 years for females and 6 years for males.

It is now obvious that there is a dilemma which emerges from all this. It is evident that patients with myofascial pain syndrome involving several separate regions will resemble patients with fibromyalgia syndrome. Again, it is not uncommon to see patients who start off with well-defined myofascial pain syndrome and progress over a period of time to a clinical scenario

identical to fibromyalgia syndrome. Patients with fibromyalgia syndrome are not immune to developing trigger points and then the question arises as to whether some of the tender points seen in fibromyalgia syndrome are, in fact, trigger points.

The difference between trigger points and tender points is not merely a matter of semantics, as this may have a bearing on the management of specific trigger points with trigger point therapy. The relevant questions in this dilemma are: (a) Are fibromyalgia syndrome and myofascial pain syndrome clinically and etiologically distinct entities? (b) Is fibromyalgia syndrome the result of widespread myofascial pain syndrome in the body? (c) Do tender points seen in fibromyalgia syndrome cause pain in a referred distribution? (d) Are many of the tender points in patients with fibromyalgia syndrome the same as trigger points in the same locations in myofascial pain syndrome?

Like in fibromyalgia syndrome, Friction in his study of 164 patients stated that 42% of subjects with myofascial pain syndrome were reporting a poor sleep pattern(12). Saskin et al reported alpha intrusion into the delta sleep in 21 patients following soft tissue injury to the neck as a result of accidents(13). One would presume that many of these patients probably had myofascial pain syndrome. It appears that both historically and clinically fibromyalgia syndrome and myofascial pain syndrome are connected. It is reasonable to say that a person who starts off with myofascial pain syndrome can eventually develop fibromyalgia syndrome and there are patients who probably fulfil the criteria of both syndromes. This makes one wonder if, indeed, both syndromes are different spectrums of the same condition.

Hence, it appears that non-restorative sleep patterns are seen not only in fibromyalgia syndrome but also in myofascial pain syndrome. Friction also revealed that in myofascial pain syndrome of the head and neck(12), an incidence of approximately 20-25% of anxiety, depression and anger was seen in these patients. Hudson et al have also found a 26% incidence of depression in patients with fibromyalgia syndrome(4).

### CHRONIC PAIN SYNDROME

It is likely that the same personality traits which predispose certain individuals with acute pain to more suffering would have an even greater effect on those with persistent or chronic pain. Many patients with persistent chronic pain have characteristic psychological abnormalities such as depression, hypochondriasis and anxiety(14). It is not clear which of these psychological abnormalities were caused by the pain and which predisposed the patient to it. The patients referred to a pain specialist or pain clinic presently represent a highly selected population whose characteristics differ from other populations of chronic pain patient, such as, those treated by primary care physicians(15). It is generally

agreed among clinicians that in a sub-set of chronic pain sufferers a significant proportion of patients show clinical features which include depressed mood, disturbed sleep pattern, somatic preoccupation with pain, reduced level of activity, fatigue, and reduced libido. This subset of chronic pain patients is often referred to as patients suffering from "chronic pain syndrome". Not all patients with chronic persistent pain fall into this category.

Davidson et al who studied chronic low back pain patients(16) found vegetative signs typical of depression including early morning awakening, weight loss and decreased libido. It has been our experience and the experience of others that people who suffer from "chronic pain syndrome", usually due to a benign condition, also suffer from the five D's, which include depressed mood, disturbed sleep pattern, dysfunctional in society (due to decreased activity level), which in turn results in disuse and decreased physical capacity. In addition, they may also suffer from overdependence on narcotic drugs, although these drugs may not be very effective in controlling their pain. In other words, their main problem is that of pain and the physical and psychological coping required to deal with it. This may result in major psychosocial and physical dysfunctioning. Many of these patients will also show reduced tolerance for pain in general.

### FIBROMYALGIA, MYOFASCIAL PAIN AND CHRONIC PAIN SYNDROME: THE CONNECTION

Patients who have presented with fibromyalgia syndrome, myofascial pain syndrome or a combination of the two syndromes in the past, could develop clinical features of chronic pain syndrome where pain associated with the five D's becomes the main preoccupation in life. This explains why patients with chronic pain syndrome may have been diagnosed in the initial stages as myofascial pain syndrome, where the pain was localized to one area of the body and then subsequently diagnosed as having fibromyalgia syndrome, when the pain spread to other parts of the body. Eventually they were diagnosed as having chronic pain syndrome when the pain became their main focus in life and was associated with psychosocial dysfunction.

The changing diagnostic labelling of the patient itself evokes a lot of anxiety in the mind of the patient, which in turn feeds the chronic pain syndrome process. Not all patients with fibromyalgia or myofascial pain syndrome eventually develop chronic pain syndrome. Certain personality traits seem to play a role in the development of chronic pain syndrome(14).

### SOMATIZATION DISORDER

Somatization was defined by Lipowski in 1988 as "the tendency to experience and communicate somatic dis-

tress and symptoms not accounted for by pathologic findings, to attribute them to physical illness and to seek medical help for them”(17). The DSM-IV has developed revised criteria for somatization disorders(18). Somatization disorder comes under the broad classification of somatoform disorders which include somatization disorders, undifferentiated somatoform disorder, conversion disorder, hypochondriasis, body dysmorphic disorder and pain disorder. Pain disorder, in turn, has been further classified into pain disorder associated with psychological factors, pain disorder associated with both psychological factors and general medical conditions and pain disorders associated with general medical conditions.

DSM-IV has developed criteria for somatization disorder including severe disability, physical complaints beginning mostly before the age of 30 and occurring over a period of several years subsequently resulting in treatment being sought, or significant impairment of social, occupational or other important areas of function. The criteria further state that the person with this disorder has at least four pain symptoms, two gastrointestinal symptoms, one sexual symptom and one pseudoneurologic symptom and that these symptoms cannot be fully explained by known general medical conditions. The patients with somatization disorder are convinced that they are chronically ill with serious somatic disease. They are usually not reassured by normal tests and examinations. They have a tendency to “doctor shop”.

In the DSM-IV, pain disorder comes under the classification of somatoform disorders. Pain disorder is divided into three categories: 1) associated with psychological factors, 2) associated with psychological and general medical conditions or 3) associated with general medical conditions only. The old term psychogenic pain has been abandoned. Most patients who in the past were thought to have chronic pain syndrome secondary to benign conditions now fall into the category of pain disorder associated with psychological and general medical conditions. According to DMD-III (1980), somatization would have come under the heading of psychogenic pain disorder. Under DSM-R-III (1987) somatization disorder would be classified as somatoform disorder. We think that the most recent version of DSM-IV tends to reduce the confusion that old terms such as chronic pain and chronic pain syndrome created.

### **SOMATIZATION DISORDER, FIBROMYALGIA AND CHRONIC PAIN SYNDROME: THE CONNECTION**

In clinical practice, patients with fibromyalgia may fulfil some of the criteria of somatization disorder if they have associated symptoms of headaches, dysmenorrhea, irritable bowel syndrome and dysesthesias and parasthesias in the legs. Some of these symptoms may

have started before the age of 30. One can also see patients with chronic pain syndrome who, besides the symptoms of pain in one region or another, may also have other symptoms referred to multiple systems in the body. It is possible that a person who suffers from somatoform disorder could fulfil some of the criteria for fibromyalgia syndrome or for that matter, chronic pain syndrome. Often diagnostic labelling may depend upon which type of specialist the patient has gone to see for their problems.

In other words, there appears to be a significant degree of overlap between fibromyalgia syndrome, myofascial pain syndrome, chronic pain syndrome, somatization disorder and other psychiatric conditions such as: anxiety, depression, somatoform disorders including conversion disorder, pain disorder associated with psychological factors and pain associated with both psychological and general medical conditions. Hence, it is imperative that any physician who specializes in looking after patients with pain be fully conversant with psychiatric conditions which are often associated with symptoms of pain. In the evaluation of any chronic pain disorder, one must take a good psychosocial history. Such an approach might prevent perpetuation of “chronic pain disorder” and also save a significant amount of money for the health care system.

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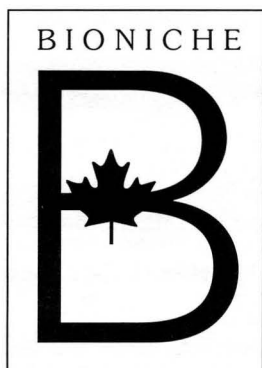
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