

# THE FIBROMYALGIA SYNDROME

S C Ng

**ABSTRACT**

*Fibromyalgia is a syndrome characterized by generalized aches, pains and tender points. Fatigue and unrefreshed sleep are typical features often seen. In addition, patients complain of vasospastic extremities, irritable bowel syndrome, irritable bladder syndrome, tension headaches and sexual problems. Despite the many complaints, investigations are invariably normal. Other chronic pain and fatigue syndrome may be differentiated from Fibromyalgia. The pathophysiology is unknown but mechanical factors and a sleep disorder are implicated. Non-pharmacological methods of treatment are more important than drugs. This includes explanation regarding the disease, reassurance, physiotherapy, stress elimination etc. Tricyclic anti-depressants may be useful. More research is needed to better understand this condition.*

*Keywords: Fibromyalgia, clinical features, management*

SINGAPORE MED J 1992; Vol 33: 294-295

**Introduction**

Fibromyalgia is a syndrome characterized by generalized aches and pains and though criteria for classification have been made by the American College of Rheumatology (ACR)<sup>(1)</sup> this syndrome remains very controversial. It is not an uncommon condition and estimates of its prevalence in the United States of America range from 3 to 6 million patients!<sup>(2)</sup> In Singapore, no figures are available as this condition has not yet been studied locally. Nevertheless, such patients are indeed seen in Singapore. Just like in other countries, there is a female preponderance.

Fibromyalgia was previously called Fibrositis. However the "itis" has been dropped due the lack of evidence of inflammation in this condition. Fibromyalgia is the preferred name.

**Clinical Features**

The two features in the ACR criteria<sup>(1)</sup> for Fibromyalgia are generalized musculoskeletal pain and tender points. Both features have to be present. By definition, the generalized musculoskeletal pain affects both sides and both upper and lower segments of the body. This pain must have been present for at least 3 months. In addition there must be axial pain along the part of the spinal column from the cervical spine down to the low back. The generalized body pain is often made worse by cold, damp weather and emotional stress. Typically, the patient has been treated by many physicians and with many different non-steroidal anti-inflammatory drugs without improvement. The symptoms may wax and wane but the patient never fully recovers.

Eighteen tender points have been clearly identified and 11 of them must be tender on palpation with an approximate force of 4 kg. The tender points are as follows:

- Occiput : bilateral at the suboccipital muscle insertions.
- Low cervical : bilateral at the anterior aspects of the intertransverse spaces at C5-C7
- Trapezius : bilateral at the mid point of the upper border.

- Supraspinatus : Bilateral at origins, above the scapular spine near the medial border
- Second rib : bilateral at the second costochondral junctions, just lateral to the junctions on upper surface
- Lateral epicondyle : bilateral 2 cm distal to the epicondyle
- Gluteal : Bilateral in the upper, outer quadrant of buttocks in anterior fold of muscle
- Greater trochanter : bilateral posterior to the trochanteric prominence
- Knee : bilateral at the medial fat pad proximal to the joint line.

In addition, many other features are seen<sup>(3)</sup>. Fatigue is a very prominent feature seen in more than 75% of the patients. There is also the problem of unrefreshed sleep. This is often not the presenting complaint and the history may have to be elicited. Many other features are seen. The patient may be vasospastic and the extremities would turn white and blue on exposure to the cold, much like Raynaud's phenomenon. There is also a subjective swelling and paresthesia of the extremities. However the swelling is never seen on clinical examination. Visceral complaints like abdominal pain, belching, gas, diarrhoea and other symptoms typical of irritable bowel syndrome are seen. The bladder may also be "irritable" and there may be complaints of frequency of passing small volumes of urine each time. Urinary tract infection is often suspected but not found. Tension headaches and migraine are also common and can be disabling. There may be complaints of loss of libido and premenstrual tension. Despite the numerous complaints and the perceived disability from the illness, clinical examination is completely normal except for the positive tender points. Patients who have features of a depressive or anxiety state may benefit from a psychiatric consultation.

It is important to do some simple investigations for all patients suspected to have Fibromyalgia. These include full blood count, ESR, a chemistry panel with muscle enzymes, calcium levels, renal functions and thyroid function test. In patients suspected to have an early inflammatory rheumatic condition, the Anti-Nuclear Antibody test and the Rheumatoid Factor should be done. Nerve conduction studies, bone scans and radiographs may be useful but only in selected patients.

Fibromyalgia may be classified as Primary (that is Fibromyalgia occurring alone,) or Secondary (that is Fibromyalgia occurring in the presence of a defined Rheumatic Disease eg Rheumatoid Arthritis). Primary Fibromyalgia is thought to be uncommon<sup>(3)</sup>. It is very important to think of the diagnosis of Secondary Fibromyalgia in a patient who has

---

Department of Medicine  
Alexandra Hospital  
Alexandra Road  
Singapore 0314

S C Ng, M Med (Int Med)  
Consultant

---

a condition like Rheumatoid Arthritis which seems to be very well controlled but the patient continues to complain of generalized bodyache and fatigue. If the diagnosis is not made, the patient may be subjected to unnecessary investigations and given unnecessary steroids or other immunosuppressants for presumed uncontrolled Rheumatoid Arthritis.

#### Other Chronic Pain and Fatigue Syndrome

Fibromyalgia has to be differentiated from regional myofascial pain<sup>(4)</sup>. These are localized and are due to unrecognized repetitive trauma. The diagnostic features are the trigger points. These are treated with stretching of the affected muscles and local injection with lignocaine. Prognosis is usually good.

Another difficult condition characterized by chronic pain is reflex sympathetic dystrophy<sup>(5)</sup>. However it is clear on examination that there is evidence of autonomic nervous system dysfunction. The 3-phase Bone scan may demonstrate changes which are quite unique to Reflex Sympathetic Dystrophy. Typically, the delayed images show increased uptake in the soft tissue. Psychogenic pain is another difficult problem<sup>(6)</sup>. The pain and tenderness may be bizarre. These patients may have regional pain or pain all over. Examination may reveal tenderness all over including at "control points" which are typically non-tender in the patients with fibromyalgia. The control points are: middle of the forehead, volar aspect of mid-forehead, thumb nail and muscles of anterior thigh<sup>(7)</sup>. Sometimes the diagnosis is very difficult and examination of very painful joints may have to be done under sedation in the presence of an anesthetist and a witness. Some patients have compensation motivated complaints of chronic pain and fatigue. The pain and suffering go away after the court case has been settled! The Chronic Fatigue Syndrome may be different from Fibromyalgia in that the former is often described with fever (less than 38° C and lymphadenopathy - features which may suggest a chronic viral infection. The Epstein-Barr virus had been implicated but there is eloquent evidence against this<sup>(8)</sup>. Recently, there is suggestion that the Coxsackie B Virus may be associated with Chronic Fatigue Syndrome<sup>(9)</sup>.

#### Pathophysiology

The exact cause of Fibromyalgia is unknown. There is a suggestion that there is a mechanical factor in the cervical and lumbar spine particularly in the location of the tender points<sup>(10)</sup>. Sleep disorder is an important factor and an alpha, non-REM, nonrestorative sleep has been demonstrated<sup>(11)</sup>. Physical deconditioning has also been thought to be a factor. Other suggested possible pathophysiologic mechanisms are muscle hypoxia, metabolic abnormalities in the muscles<sup>(12)</sup>, "neurogenic inflammation" and neurochemical deficiencies. It has recently been reported that low concentration of procollagen Type III aminoterminal has been found in patients with Fibromyalgia. Those with lower levels have more symptoms<sup>(13)</sup>.

#### Management

Currently, there is no cure for Fibromyalgia. The first step in management is correct diagnosis. Non-pharmacological methods of treatment are most important. The patient has to be educated regarding the illness. The patient is usually weary of seeking medical help. The patient has to be reassured that she is not suffering from a life threatening or potentially crippling illness. She should be made to understand that the condition is a chronic illness which is difficult to treat. It is still a poorly understood condition but it occurs quite commonly and research is underway to help doctors better understand the ill-

ness. The patient should not be made to feel as if she is malingering but on the other hand she should not take the illness as an excuse to opt-out of work and usual activities. Physiotherapy is important to get the patient to become aerobically fit. Patients with improved cardiovascular fitness showed improvement in the tender point count and the physician and patient global assessment<sup>(14)</sup>. Stress elimination is also an important factor. EMG-biofeedback has been studied in a controlled fashion and patients who received true biofeedback improved in all parameters as compared to those who only received sham biofeedback<sup>(15)</sup>. As for drug therapy, tricyclic anti-depressants have been subjected to proper trials. Amitriptyline has been used in 2 studies. In both studies, benefit was demonstrated,<sup>(16,17)</sup>. One of these studies also showed that non-steroidal anti-inflammatory drugs (Naproxen) is not effective in fibromyalgia<sup>(17)</sup>. Prednisone has also been tried and found to be ineffective in a 3-week study<sup>(18)</sup>. High doses of 5 hydroxytryptophan have been tried in 50 patients with some improvement in all the parameters tested and there was minimal side effects<sup>(19)</sup>.

There is still much that is not known about fibromyalgia and current treatment does not seem to be very effective. With the available criteria for classification of the disease, more controlled studies can be done with similar patients - testing both drugs as well as non-pharmacological modalities of treatment.

#### REFERENCES

- 1 Wolfe F, Smythe HA, Yunus MB et al. The American College of Rheumatology 1990 Criteria for the Classification of Fibromyalgia. *Arthritis Rheum* 1990; 33:160-72.
- 2 Goldenberg DL. Fibromyalgia Syndrome: An emerging but controversial condition. *JAMA* 1987; 257:2782-7.
- 3 Wolfe F. Fibromyalgia. *The Clinical Syndrome. Rheum Dis Clin North Am* 1989; 15(1):1-17.
- 4 Campbell SM. Regional Myofascial Pain Syndrome. *Rheum Dis Clin North Am* 1989; 15 (1): 31-44.
- 5 Kozin F. Reflex Sympathetic Dystrophy Syndrome. In: Schumacher HR, ed. *Primer on The Rheumatic Diseases 9th Edition. Arthritis Foundation Publishers, Atlanta GA. 1988: 274-5.*
- 6 Smythe HA. Nonarticular Rheumatism and Psychogenic Musculoskeletal Syndromes. In: Mc Carty DJ, ed. *Arthritis and Allied Conditions 10th Edition. Lea and Febiger Publishers, Philadelphia. 1985: 1083-94.*
- 7 Bennet RM. The Fibrositis-Fibromyalgia Syndrome. In: Schumacher HR, ed. *Primer on The Rheumatic Diseases 9th Edition. Arthritis Foundation Publishers, Atlanta GA 1988: 227-9.*
- 8 Goldenberg DL. Fibromyalgia and Other Chronic Fatigue Syndromes: Is there evidence for Chronic Viral Disease? *Semin Arthritis Rheum* 1983; 18(2): 111-20.
- 9 Dowsett EG, Ramsey AM, McCartney RA et al. Myalgic Encephalomyelitis. A persistent enteroviral infection? *Post Grad Med J* 1990; 66: 526-30.
- 10 Smythe HA, Sheon RP. Fibrositis/Fibromyalgia: A difference of Opinion. *Bull Rheum Dis* 1990; 39 (3):1-8.
- 11 Moldofsky H, Scarisbrick P, England R et al. Musculoskeletal symptom and non-REM sleep disturbance in patients with "Fibrositis syndrome" and healthy subjects. *Psychosomat Med* 1975; 37: 341-51.
- 12 Bengtsson A, Henriksson KG, Larsson J. Reduced high energy phosphate levels in the painful muscles of patients with primary fibromyalgia. *Arthritis Rheum* 1986; 29: 817-21.
- 13 Jacobsen S, Jensen LT, Foldager M, et al. Primary Fibromyalgia: Clinical parameters in relation to serum procollagen Type III Aminoterminal peptide. *Br J Rheumatol* 1990; 29: 174-7.
- 14 McCain GA, Bell DA, Mai FM et al. A controlled study of the effects of supervised cardiovascular fitness training program on the manifestations of primary fibromyalgia. *Arthritis Rheum* 1988; 31: 1135-41.
- 15 Ferraccioli G, Chirelli L, Scita F et al. EMG-biofeedback training in fibromyalgia syndrome. *J Rheumatol* 1987; 14: 820-5.
- 16 Carette S, McCain GA, Bell DA, et al. Evaluation of amitriptyline in primary fibrositis. *Arthritis Rheum* 1986; 29: 655-9.
- 17 Goldenberg DL, Felson DT, Dinerman H. A randomized controlled trial of amitriptyline and Naproxen in the treatment of patients with fibromyalgia. *Arthritis Rheum* 1986; 29: 1371-7.
- 18 Clark S, Tindall E, Bennett RM. A double-blind crossover trial of prednisone versus placebo in the treatment of fibrositis. *J Rheumatol* 1985; 12: 980-3.
- 19 Caruso I, Sarzi PP, Cazzola M et al. Double blind study of 5-hydroxytryptophan versus placebo in the treatment of primary fibromyalgia syndrome. *J Int Med Res* 1990; 18: 201-9.