

Symptoms and signs in fibromyalgia syndrome

I segni e i sintomi della sindrome fibromialgica

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RIASSUNTO

La sindrome fibromialgica (FM) è una comune condizione di dolore cronico che interessa almeno il 2% della popolazione. Il dolore cronico diffuso è l'elemento caratterizzante la FM, ma i pazienti possono riferire una varietà di altri sintomi, compresi disturbi del sonno, astenia, sindrome da colon irritabile, cefalea, e disturbi del tono dell'umore. L'eziologia della FM non è completamente conosciuta e la sindrome viene influenzata da una varietà di fattori quali stress, malattie mediche e una molteplicità di condizioni dolorose. Stabilire la diagnosi può essere difficile a causa della natura multiforme della sindrome e della sovrapposizione con altre sindromi dolorose croniche. Un'ipotesi unificatrice è che la FM risulti dalla sensibilizzazione del sistema nervoso centrale; questo nuovo concetto potrebbe giustificare la varietà di caratteristiche cliniche della sindrome. I sintomi della FM possono essere muscolo scheletrici, non-muscoloscheletrici o una combinazioni di entrambi e molti pazienti sperimentano un insieme di sintomi o condizioni cliniche. I criteri classificativi ACR si focalizzano solamente sul dolore e non considerano altri sintomi importanti, ma tre sintomi-chiave, dolore, astenia e disturbi del sonno sono presenti praticamente in ogni paziente affetto da FM. Parecchi altri disturbi associati comprendenti i sistemi circolatorio, nervoso, digestivo, e genito-urinario sono probabilmente parte della cosiddetta sindrome da sensibilizzazione centrale. Una minoranza dei pazienti (30-40%) ha un significativo disturbo psicologico. I disturbi psichiatrici più comunemente descritti sono i disturbi del tono dell'umore, ma le patologie psichiatriche non costituiscono un fattore necessario nella eziopatogenesi della FM.

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INTRODUCTION

Fibromyalgia (FM) is currently classified as chronic widespread pain with widespread al-

lodynia/hyperalgesia to pressure pain and is categorized among the large group of soft-tissue pain syndromes. FM remains an elusive condition of unknown etiology in which patients report not only chronic widespread pain but also a variety of other complaints, so that it is one of several relatively common overlapping syndromes characterized by otherwise unexplained chronic pain and fatigue (1, 2).

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The cardinal features are chronic widespread pain in the presence of multiple tender points throughout the body on physical examination.

FM, as defined by the American College of Rheumatology (ACR) 1990 definition for clinical trials, is a chronic widespread pain condition with characteristic tender points on physical examination, often associated with a constellation of symptoms such as fatigue, sleep disturbance, headache, irritable bowel syndrome, and mood disorders. The ACR defined 2 major compulsory criteria for classifying FM in adults. The first criterion is a history of widespread pain for at least 3 months. The second criterion requires patient report of tenderness in at least 11 of 18 defined tender points when digitally palpated with about 4 kg per unit area of force (3).

Diagnosis is on the contrary made by a combination of patient history, physical examination, laboratory evaluations, and exclusion of other causes for symptoms attributed to FM.

It has also been noted that the ACR classification criteria focus only on pain and disregard other important symptoms of FM, including fatigue, cognitive disturbance, sleep disturbance, and psychological distress, and that focusing strictly on pain may fail to capture the “essence” of this syndrome (4). Three key features pain, fatigue and sleep disturbance are present in virtually every patient with FM (5) even if the hallmark symptom that differentiates FM from most other medical conditions is the pronounced tenderness to even mildest palpation or physical touch, i.e. allodynia (6, 7).

A recent study provided some evidence of the seriousness of improper diagnosis, criticizing the disturbing diagnostic error rate (66%) (8). With regard to this, the principal author of the 1990 ACR Criteria recently published an editorial article entitled “Stop using the ACR Criteria in the Clinic” (9).

In a very recent study, in order to develop a new definition of FM based on symptoms and without tender points, the authors concluded that the key symptoms are chronic widespread pain, non-restorative sleep and subjective disabilities, implying that FM is more than just a pain disorder (10).

In the late '80s, Yunus proposed that preliminary clinical criteria for FM should include some historical features besides the tender point count, a description of pain as “hurt all over,” anxiety and stress, non restorative sleep, fatigue, irritable bowel symptoms, and pain referred by patients in seven sites (11).

Table 1 - Full OMERACT 8 group responses in percentages (13).

Domain	A	B	C
Pain	94	3	3
Fatigue	86	13	1
Patient Global	81	12	7
Sleep	64	26	10
Multidimensional function	60	28	12
HRQOL	52	34	14
Tenderness	50	27	24
Depression	44	34	21
Treatment side effects	40	34	26
Anxiety	22	43	35
Dyscognition	21	42	37
Stiffness	13	35	
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A: essential for core set for all clinical studie. B: necessary but not mandatory for

In 1992 a consensus document (the Copenhagen declaration) identified FM is part of a wider syndrome involving headaches, bruxism, irritable bowel, irritable bladder, sleep disorders, dysmenorrhea, depression and anxiety disorders, cold sensitivity, Raynaud's phenomena, restless legs, atypical patterns of numbness and tingling, complaints of weakness, exercise intolerance, cognitive dysfunction, autonomic nervous system or neuroendocrine dysregulation (12).

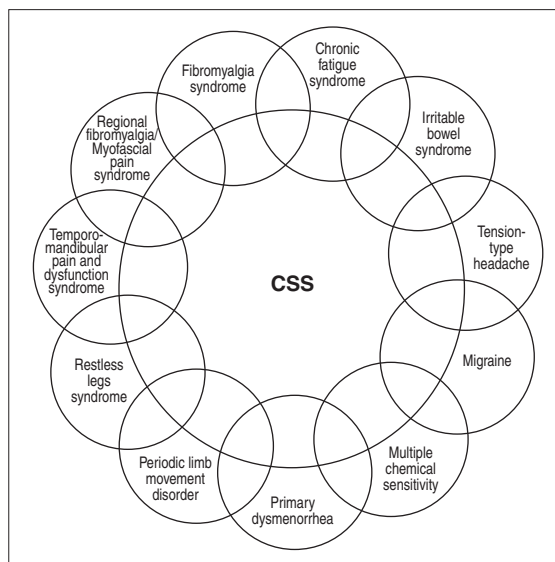


Figure 1 - Central Sensitivity Syndrome and its members with overlapping features. From Yunus MB. Psychological aspects of fibromyalgia syndrome: a component of the dysfunctional spectrum syndrome. *Baillieres Clin Rheumatol.* 1994; 8(4): 811-37. In Rachlin ES, Rachlin IS. *Myofascial Pain and Fibromyalgia, Trigger Point Management.* 2nd ed. St. Louis: Mosby, 2002 (adapted).

OMERACT 8 workshop on FM in 2006, of which the principal objective was to work towards consensus on core domains for assessment in FM studies, identified key domains of pain, fatigue, sleep disturbance, multidimensional function, quality of life, mood disorders, and cognitive dysfunction. An additional domain highlighted by patients was stiffness (13) (Table I). At last we cannot ignore the evolving idea of central sensitivity syndrome (CSS), which is based on neuroendocrine aberrations interacting with psychosocial factors. CSS becomes an important new concept that embraces the biopsychosocial model of disease as a useful paradigm and an appropriate terminology for FM and related conditions (14, 15) (Fig. 1).

THE SYMPTOMS

The most common and characteristic symptoms of FM are generalized pain, stiffness, fatigue, and poor sleep. Other symptoms are a swollen feeling in soft tissue and paresthesia. Several associated illnesses, more common in FM patients than in normal population (as well as in those with other chronic pain conditions) have been well described (16).

MUSCULOSKELETAL SYMPTOMS

Pain

As mentioned, the defining symptom of FM remains widespread chronic pain that lasts at least three months, usually present in all four limbs, as well as the upper or lower back. About two thirds of the patients state that they “hurt all over”; this symptom has been found to be useful in differentiating FM from other conditions (11).

Pain may be described as any combination of burning, searing, tingling, shooting, stabbing, deep aching, sharp and feeling bruised all over (17). Some authors, using an adapted McGill Pain Questionnaire, found that pain in FM had a greater spatial distribution and involved a greater number of pain descriptors compared to other pain syndromes (18).

Common sites of pain are low back, neck, shoulder region, arms, hands, knees, hips, thighs, legs, feet (19), and anterior chest (20). However, pain is usually generalized and in “non-anatomical” distribution or regional; it does not follow any definite structural or nerve root distributions, it is perceived

as originating in the muscle or deep in bones (17), although in a subgroup of patients it is predominantly articular (21).

Characteristics of FM pain include allodynia, hyperalgesia, persistent pain, summation effects, hyperpatia in the skin and tenderness on examination.

Pain is often aggravated, like stiffness, by cold or humid weather, anxiety or stress, overuse or inactivity, poor sleep (19, 22) and noise (20). The worst times for an FM patient are in the morning, the latter half of the afternoon, and evening (23).

Myalgia and muscle dysfunctions

Pain often includes widespread myalgia that is not necessarily confined to the tender points, and with characteristics that vary widely even in an individual patient. It can also appear as low back pain, sometimes simulating sciatica; in this case there may be a concomitant myofascial pain syndrome (piriformis, gluteus).

Approximately 40% of FM patients reported leg cramps in comparison to 2% of controls (24).

Myalgia can be accompanied by muscle weakness and fasciculations with or without general weakness. Muscle function is globally impaired (most of all aerobic processes) (25) and strength is generally reduced in the hand and quadriceps, in particular (26).

Many studies failed to demonstrate typical and specific muscle abnormalities. Bioptic studies (27-29) revealed only non-specific signs of muscle pathology without pathognomonic flags of FM. Needle electromyography found minor and, again, non-specific changes looking for pathological evidence of motor unit recruitment (no loss of motor units and no fiber degeneration) (30). Multichannel surface electromyography seems to be of some interest, giving original information about acute alteration of motor unit recruitment strategies and chronic modification of muscle fiber type distribution, number or size (31, 32). Muscle alteration that is clinically expressed as fatigue could be the peripheral aspect of a central alteration of the sensory-motor interaction.

Muscles in a patient with FM probably undergo a pathologic remodelling related to an altered suprasedgmental control (33). Because of this, their function is incorrect and ineffective.

However, these results are not strictly related to fibromyalgic muscle; they have also been recorded, for example, in healthy, deconditioned elderly populations (34).

Stiffness

In FM patients, stiffness, typically, is not only articular but also generalized (global stiffness) and is common; but unlike in rheumatoid arthritis, it is worse upon awakening and in the evening. The incidence of morning stiffness lasting more than fifteen minutes has been reported in as many as 83% of patients (35).

Morning stiffness does not correlate with severity of FM (19), but it does correlate with pain (36).

Swollen feeling in tissue

Swelling of the hands and feet is often present in FM and is sometimes accompanied by numbness and tingling. Generalized swelling may be present as the result of inactivity as well.

In many patients, the sensation of swelling is present (22), even if no objective joint swelling is present on physical examination. In some patients, the skin overlying a muscle with known myofascial pain syndrome can exhibit the characteristic orange peel skin; however, trophic edema does not “pit” upon digital pressure in these cases.

NON-MUSCULOSKELETAL SYMPTOMS

Fatigue

Fatigue is quite common in FM; it is generally worse in the morning and patients often awaken feeling more exhausted than when they went to bed. Moderate or severe fatigue occurs in about 75% to 90% of patients (35, 36). Patients will typically describe their fatigue using the expression, “I’m always tired.” Other descriptors for fatigue include exhaustion, tiredness, lack of energy, and sometimes, a global feeling of general weakness. Fatigue in these patients seems to be unexpected or inappropriate with a delayed reactivity following physical exertion (next day or even later). After exercise FM patients can feel worse rather than better. Normal physical or intellectual exertion may take an inordinate amount of time to regain the pre-exertion level of function and competence. Fatigue may be generated by many different mechanisms. Arousal fatigue is a typical cause of fatigue in FM; it results from an inadequate quantity or quality of sleep or from some medications. Muscular fatigue is commonly seen in FM, and motivational fatigue is usually associated with depression, which is present in about 30% or more of FM patients (17). Fatigue is also associated with pain severity and functional disabilities (37).

Sleep dysfunction

Non restorative sleep is common in FM. About 75% of patients describe sleep disturbances that may include early, middle or late insomnia; hypersomnia; frequent awakening; light sleep with irregular diurnal rest; or reversed or chaotic sleep rhythms. Poor sleep may aggravate pain and may also contribute to disturbed sleep. There is a relationship, in fact, between poor sleep and pain, and sleep disturbances are important in the genesis of tender points (37, 38).

Loss of deeper phases of sleep (stages three and four) is characteristic of FM and leads to the loss of restorative feelings on awakening.

Polysomnographic studies have shown that, compared to controls, FM patients experience a reduced portion of deep sleep, REM sleep, and total sleep time, a greater number of awakenings and a significant pattern indicating the intrusion of alpha waves on delta rhythm (39).

Some researchers have suggested that alpha intrusion is an intrinsic characteristic of non-REM sleep in FM patients (40-42). Others, however, do not agree because this phenomenon may be observed in normal individuals and in patients with other chronic pain syndromes, such as rheumatoid arthritis and chronic fatigue syndrome (41, 43). Still other researchers have demonstrated a poor presence of alpha waves intrusion during deep sleep in FM patients (44, 45).

From these varied studies, a reasonable conclusion is that fragmented sleep is an important factor for the physiopathology of FM symptoms; and although an excess of alpha intrusion is not specific for FM, it may be considered a sensitive marker for non-restorative sleep nevertheless.

Restless legs syndrome or periodic limb movement disorder may also contribute to sleep disturbances. Restless legs syndrome has been reported in approximately 30% of FM patients compared to 2% of controls (24). Periodic limb movement disorder is another common sleep disturbance that affects about 30% of patients over the age of 50. It is often independent of the presence of FM and is characterized by transient episodes (0.5 to 5 seconds) of partial bending of the ankles, knees, or hips (46). This disorder is common, but is not as significant in FM patients.

Sleep apnea syndrome and other breathing conditions, like periodic breathing during sleep, might be observed in FM patients. Sleep apnea syndrome is characterized by recurring episodes of upper breathing apparatus (mouth and nose) obstruction

during sleep with significant ipopnea or apnea (47). About 2% of women and 44% of men with FM are affected by sleep apnea syndrome (48). In spite of this, apneas are unlikely culprits for FM symptoms (49).

Paresthesia

Paresthesia has been shown to appear in as many as 84% of FM patients (50) and occurs predominantly in the extremities. In some patients these symptoms can be quite severe but without sensory deficits on physical examination. This symptom is described as tingling, “pins and needles,” or numbness. Paresthesia may have a radiating quality that mimics a neurologic disorder but without radicular distribution. Electromyographic and nerve conduction velocity studies are normal in these patients (50).

ADDITIONAL CLINICAL SYMPTOMS

The clinical presentation of FM may vary somewhat, and the additional symptoms, though not required for ACR criteria, are still clinically important (Table II).

Neurologic manifestations

FM patients often report symptoms that are neurological in nature. Muscle dysfunction often manifests as a hypertonic or hypotonic state, an abnormal twitch response, cramps, weakness and fasciculation. Headaches, temporomandibular joint disorder, perceptual disturbances, spatial and temporal instability and sensory overload phenomena often occur. In particular, the patient may be hypersensitive to light, sound, noise, speed, odours and other mixed sensory modalities. Perceptual disturbances may include dizziness, numbness, tinnitus, nausea or shooting pain (17).

Neurocognitive manifestations

Neurocognitive disturbances are usually present in FM patients. These include impaired concentration and short-term memory consolidation, reduced performance speed, inability to multi-task, distractibility and cognitive overload. Complaints of cognitive “fog” (fibro-fog) or simple confusion, linguistic performance impairment, dyslexia when fatigued, and difficulty with writing, reading, mathematics, word retrieval and speaking are especially common. It is easy for patients to lose track of things and to forget many things (17).

Table II - Symptoms in Fibromyalgia Syndrome Based on Several Large Series.

<i>Symptoms</i>	<i>Mean*</i>
Musculoskeletal	
Pain at multiple sites	100
Stiffness	78
“Hurt all over”	64
Swollen feeling in tissue	47
Nonmusculoskeletal	
General fatigue	86
Morning fatigue	78
Poor sleep	65
Paresthesia	54
Associated syndrome	
Headaches	53
Dysmenorrhea	43
Irritable bowel syndrome	40
Restless legs syndrome	31
Sicca syndrome	15
Raynaud’s phenomenon	13
Female urethral syndrome	12

*Mean values derived from percentage figures reported in several studies. In Rachlin ES e Rachlin IS Myofascial pain and fibromyalgia: trigger point management (30). Modified from Yunus MB, Masi AT: Fibromyalgia, restless legs syndrome, periodic limb movement disorder and psychogenic pain. In McCart DJ Jr, Koopman WJ (eds): Arthritis and Allied Conditions: A Textbook of Rheumatology, 12th ed. Philadelphia, Lea & Febiger, 1993, pp 1383-1405.

FM patients have cognitive function that is worse than that in age-matched controls (51) and similar to that in adults 20 years older with respect to long-term memory and working memory (i.e. the amount of information a person can store and process simultaneously) (52).

FM patients are able to perform at a similar level as healthy controls, but this is only due to more extensive neural activation in frontal and parietal brain regions (53). This supports the hypothesis that FM patients show an aging effect that requires increased use of cognitive resources to maintain comparable levels of performance as their same-aged peers.

The finding of an acceleration of age-related brain changes has been supported by the observation that FM patients had significantly less total gray matter volume and 3.3 times greater age-associated decrease in gray matter than healthy controls. The longer the individuals had had fibromyalgia, the greater the gray matter loss, with each year of fibromyalgia being equivalent to 9.5 times the loss in normal aging (54).

This is probably due to the mechanism of neurotoxicity (neuronal apoptosis).

Autonomic and neuroendocrine manifestations

These manifestations indicate a general loss of internal homeostasis and adaptation. They include cardiac arrhythmias, hypotension, dizziness, sense of lightheadedness, vertigo, vasomotor instability, sicca syndrome, temperature instability, heat or cold intolerance, respiratory disturbances, intestinal and bladder motility disturbances, dysmenorrhea, loss of adaptability and tolerance for stress, emotional flattening, and reactive depression (17).

Associated symptoms and conditions and central sensitivity syndrome

Chronic headaches, irritable bowel, irritable bladder and female urethral syndromes, primary dys-

menorrhea, restless legs syndrome, and sicca syndrome have been often described in FM, more common than in pain-free normal controls (3). But several other similar syndromes, including FM, are now considered to form a spectrum of illnesses with central sensitivity, described previously as CSS (15) (Table III).

Psychiatric disorders and psychological factors

Psychological factors are an important determinant of any form of pain including chronic pain, irrespective of the cause, and FM is no exception. Psychological distress perpetuates pain, and chronic pain may cause psychological disturbance.

Table III - Symptoms that may be present, not included as part of the criteria for diagnosis (17).

<p>Musculoskeletal system</p> <ul style="list-style-type: none"> Generalized stiffness Muscle cramps Chest pressure and pain TMJ dysfunction <p>Nervous system</p> <ul style="list-style-type: none"> Persistent fatigue Lack of endurance Migraines or new onset headaches <p><i>Sensory</i></p> <ul style="list-style-type: none"> Hypersensitivity to pain Hyperresponsiveness to noxious stimulus Perceptual and dimensional distortions Feeling of burning or swelling Sensory overload phenomena Loss of cognitive map Dyspnea <p><i>Cognitive</i></p> <ul style="list-style-type: none"> Difficulties processing information Slowness in cognitive processing Concentration problems Difficulties with word retrieval Confusion and word mix-ups Short-term memory difficulties <p><i>Motor and balance</i></p> <ul style="list-style-type: none"> Muscle weakness and paralysis Poor balance, ataxia and tandem gait Clumsiness and tendency to drop things Difficulty in tandem gait Atypical numbness or tingling <p><i>Neuroendocrine system</i></p> <ul style="list-style-type: none"> Marked weight change Heat/cold intolerance Neuropsychological Mood swing, anxiety Reactive depression 	<p>Visual and auditory disturbances</p> <ul style="list-style-type: none"> Visual changes or eye pain Double, blurred and wavy vision Dry or itchy eyes Photophobia Tinnitus-buzzing or ringing in ears Hyperacusis and interference from background noise <p><i>Sleep disturbances</i></p> <ul style="list-style-type: none"> Sleep disorder, hyper or insomnia Non-refreshing sleep <p><i>Circulatory system</i></p> <ul style="list-style-type: none"> Neurally-mediated hypotension Fainting or vertigo Palpitations and tachycardia Fluid retention Bruising <p><i>Digestive system</i></p> <ul style="list-style-type: none"> Lump in throat Nausea Heart burn Abdominal pain Irritable bowel syndrome <p><i>Urinary system</i></p> <ul style="list-style-type: none"> Irritable bladder Overactive bladder <p><i>Reproductive syndrome</i></p> <ul style="list-style-type: none"> Dysmenorrhea Pre-menstrual syndrome or irregular cycles Loss of sexual libido or impotence Anorgasmia
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A minority subgroup of patients (30-40%) has a significant psychological disturbance (55).

Several studies provide evidence that psychiatric disorders occur at significantly higher rates in subjects with FM compared with other pain patients or healthy controls. Other studies contend that the frequency of such distress is similar to that in other chronic disease, such as rheumatoid arthritis (55). Studies examining psychiatric comorbidity in community samples of subjects with FM found elevated levels of psychopathology (56, 57), although psychiatric illness is not a necessary factor in the etiopathogenesis of FM.

Psychiatric disorders most commonly described are mood disorders.

Current major depression has been detected in 14-36% of patients with FM (58, 59) compared to 6.6 % of healthy subjects in a community sample (60). Family history studies indicate a higher prevalence of mood disorders in first degree relatives of patients with FM compared to first degree relatives of patients with rheumatoid arthritis and healthy controls (61, 62).

Subjects with FM report childhood traumatic experiences more frequently than medically ill or healthy controls; and they report a high prevalence of emotional neglect or abuse (48%) and physical maltreatment (23%) as well (63).

Job-related stress or or physical stressors may act as precipitating factors, but the impact of these stressors may only be realized if they have strong personal significance. An etiopathogenetic link between FM and life stress is also suggested by the comorbid occurrence of post-traumatic stress disorder.

Post-traumatic stress disorder symptoms were founded in 56% of patients with FM (64).

Research on personality traits in FM has yielded inconsistent results, but no personality disorders have been associated with FM (65).

Despite all of this, cognitive styles are increasingly being recognized as important factors in the experience of pain. For example, catastrophizing, which is characterized by pessimistic beliefs about oneself, others, and the future and by defining pain as awful and unbearable, is a common cognitive style that is known to modulate pain reports and pain-related disability. It seems to play a substantial role in the development of pain chronicity and in the experience of chronic pain and pain-related disability. It is an independent factor that is only partially associated with depression.

Catastrophizers hardly shift their attention away

from painful or threatening stimuli, and they attach more threat or harm to non-painful stimuli than is warranted (66).

THE SIGNS

The most significant finding related to FM is the presence of multiple tender points (3). Tender points are best elicited by manual palpation, specifically by digital pressure using an approximate total force of four Kg. A small subgroup of patients is diffusely tender all over. It is necessary to underline that the tender point never aches spontaneously.

Other physical signs, though not necessary for diagnosis, are skinfold tenderness, which is assessed by pinching a fold of skin and subcutaneous tissue on tender point sites, cutaneous hyperaemia at the tender point site after examination, and reticular discoloration (livedo reticularis) in the extremities.

Negative findings are the absence of joint swelling, a normal range of joint motion and muscle strength, and normal sensory function and reflexes (56).

CONCLUSION

FM is a chronic pain condition in which patients report not only widespread pain but also a variety of other complaints. The cardinal features are chronic widespread pain in the presence of multiple tender points throughout the body on physical examination. The ACR 1990 definition for clinical trials proposed compulsory criteria for classifying FM in adults and was not intended to be used for clinical diagnosis.

On the contrary, diagnosis is made by a combination of patient history, physical examination, laboratory evaluations, and exclusion of other causes for symptoms attributable to FM.

Three key features - pain, fatigue and sleep disturbance - are present in virtually every patient with FM. The hallmark symptom that differentiates FM from most other medical conditions is allodynia to even the mildest palpation or physical touch. The tender point, which never aches spontaneously, is the only cardinal sign, and it can be elicited by manual palpation via digital pressure.

FM symptoms can be summarized in musculoskeletal, non-musculoskeletal, and additional clinical symptoms.

Associated symptoms and conditions must be considered in patient's evaluation because several associated illnesses are more common in FM patients than in the normal population.

The evolving idea of CSS, which is based on neuroendocrine aberrations interacting with psychosocial factors, will be an important new concept

to consider in the daily diagnosis of FM and related conditions.

The Wolfe editorial entitled "Stop using the ACR Criteria in the Clinic" is a great article that will encourage physicians to obtain complete knowledge of all common and uncommon FM symptoms to minimize improper diagnosis.

SUMMARY

Fibromyalgia syndrome (FM) is a common chronic pain condition that affects at least 2% of the adult population. Chronic widespread pain is the defining feature of FM, but patients may also exhibit a range of other symptoms, including sleep disturbance, fatigue, irritable bowel syndrome, headaches, and mood disorders. The etiology of FM is not completely understood and the syndrome is influenced by factors such as stress, medical illness, and a variety of pain conditions. Establishing diagnosis may be difficult because of the multifaceted nature of the syndrome and overlap with other chronically painful conditions. A unifying hypothesis is that FM results from sensitization of the central nervous system; this new concept could justify the variety of characteristics of the syndrome. FM symptoms can be musculoskeletal, non-musculoskeletal, or a combination of both; and many patients will also experience a host of associated symptoms or conditions. The ACR classification criteria focus only on pain and disregard other important symptoms; but three key features, pain, fatigue and sleep disturbance, are present in virtually every patient with FM. Several other associated syndromes, including circulatory, nervous, digestive, urinary and reproductive systems are probably a part of the so called central sensitivity or sensitization syndrome. A minority subgroup of patients (30-40%) has a significant psychological disturbance. Psychological factors are an important determinant of any type of pain, and psychological comorbidity is frequent in FM. Psychiatric disorders most commonly described are mood disorders, but psychiatric illness is not a necessary factor in the etiopathogenesis of FM.

Key words - Fibromyalgia, symptoms, sleep disorders, restless leg syndrome, chronic pain, fatigue.

Parole chiave - Fibromialgia, sintomi, disturbi del sonno, sindrome delle gambe senza riposo, dolore cronico, fatica.

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