



Fibromyalgia Syndrome Clinical Picture, Diagnosis, Treatment

1. D. B. Egamov

2. D. T. Khodjjeva

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¹ 1st year basic doctoral student Bukhara State Medical Institute

² Doctor of Medical Sciences, Professor Bukhara State Medical Institute

Abstract: Fibromyalgia syndrome (FS) is an extra-articular disease characterized by diffuse pain, fatigue of the skeletal muscles, and a decrease in the level of pain threshold on palpation in characteristic places designated as “pain points”. Although the syndrome of fibromyalgia, also described in the literature under the names generalized tendomyopathy, fibrositis, is a relatively new disease for rheumatologists in most countries, this symptom complex, referred to as muscular rheumatism, was mentioned in European literature as early as the 17th century. The absence of signs of inflammation in the muscles during morphological examination excluded the use of the term “fibrositis”, therefore, in the last decade, the name of this pathology as fibromyalgic syndrome has taken root in the literature.

Keywords: Fibromyalgia, fibrositis, Rheumatological, neuropeptides.

Particular attention to the fibromyalgia syndrome in the last 15 years is due to its high prevalence, now it is one of the most common diseases in outpatient practice, occupying the 2nd - 3rd place among all reasons for referring to a rheumatologist. In domestic practice, this diagnosis is almost never made, since the fibromyalgia syndrome is still little known to doctors. The diagnostic criteria of the American Rheumatological Association (ARA) in 1990 first identified this syndrome as an independent disease that can occur both in isolation and against the background of other diseases occurring with muscle damage (endocrine pathology, rheumatological diseases, etc.). Diagnostic criteria for fibromyalgia syndrome.

History of generalized pain: Definition: diffuse pain in the left or right side of the body, above or below the waist, or axial pain (in the neck, in the region of the anterior chest wall, in the back). The duration of the pain syndrome is more than 3 months. The presence of other clinical pathology does not exclude the diagnosis of fibromyalgia syndrome. 2. Pain in 11 out of 18 points on palpation .

Finger pressure should correspond to 4 kg, only the onset of pain is considered a positive answer, not sensitivity:

- bilaterally in the occiput of the suboccipital muscle;
- bilaterally in the neck at the level of C5 - C7;

- bilaterally in the middle of the upper border of the trapezius muscle;
- bilaterally above the scapula at the medial edge of m. supraspinatus;
- bilaterally at the osteochondral articulation of the 2nd rib;
- bilaterally in the upper outer square of the buttocks;
- bilaterally posterior to the trochanter; bilaterally proximal to the knee joint (in the middle of the fat pad)

Preliminary reports indicate a possible connection between the development of fibromyalgia syndrome and herpes simplex virus type 6, paravirus B19, and Lyme borreliosis. The most common symptoms of fibromyalgia syndrome are generalized pain and skeletal muscle fatigue, stiffness, and poor sleep. Muscle pain is most often localized in the neck and shoulders, back, lower back, somewhat less often in the limbs, the region of the anterior chest wall. Stiffness is noted by 70% of patients usually in the morning and evening hours, its duration can vary from 1 to 24 hours (on average, about 10 hours). In contrast to rheumatoid arthritis, stiffness in SF does not correlate with the severity of symptoms (the severity of pain). General fatigue in the absence of obvious reasons is very characteristic of patients and can be aggravated by poor sleep, which is noted in 60–80% of patients. Studies using spectral analysis of sleep phases in EEG have shown that in patients with fibromyalgia syndrome, an alpha rhythm is detected during the NREM sleep phase, that is, “non-restorative sleep” occurs, the appearance of which coincides with increased muscle pain. The lack of a sense of rest after sleep is noted by up to 100% of patients with SF. Specific for C is the detection of possible painful points in certain anatomical places (see figure), of which 18 localizations (9 on the right and left sides) were selected for diagnostic criteria, which occur with the highest frequency. In clinical practice, these points are determined by palpation, the pressure force should not exceed 4 kg (usually pressure with such a force leads to whitening of the tip of the nail phalanx), or using a dolorimeter device that allows you to give a dosed load in the area of painful points. The use of this device objectifies and differentiates the diagnosis. Controlled studies have shown that patients with fibromyalgia syndrome are more sensitive to pressure with a dolorimeter than healthy people or patients with rheumatoid arthritis. As a rule, in patients with fibromyalgia syndrome, pain occurs when pressure in the area of painful points with a force of less than 2 kg (sometimes 200 - 300 g), and in the control group - 6 - 8 kg. Painful points are usually detected symmetrically on both halves of the body; their number may vary depending on external factors. Cold, damp weather, winter season, morning hours, emotional stress provokes an increase in generalized soreness and a decrease in the pain threshold in the area of specific points. On the other hand, calming factors include warm, dry weather, summer, relaxation, local application of heat.

Approximately 1/3 of patients note subjective sensations of swelling in the joints and numbness of the extremities, which are not confirmed by an objective study. In 20% of patients, it is possible to identify “fibrotic nodules” in the peri-sacral region, in the upper part of the buttocks, often painful, although histologically they are fibrous-adipose tissue without signs of inflammation. More than half of patients with SF have various so-called functional disorders, in which the severity of complaints does not correspond to organic lesions and the course of the disease depends on the psychosocial situation. They often tend to become chronic, poorly controlled by therapeutic measures.

Most Common Functional Disorders in Fibromyalgia Syndrome

- ✓ cardiovascular system: hyperkinetic syndrome, cardialgia, cardiac arrhythmias (sinus tachycardia, paroxysmal tachycardia and tachyarrhythmia, extrasystole), hypotension, labile hypertension, syncope, Raynaud's syndrome;

- ✓ gastrointestinal tract: irritable stomach syndrome (non-ulcerative dyspepsia), irritable bowel syndrome;
- ✓ respiratory system: neurotic respiratory syndrome (hyperventilation syndrome);
- ✓ urogenital system: irritated bladder (dysuria), dysmenorrhea; • functional headache (migraine);
- ✓ sleep disorders; Autonomic and functional symptoms are observed much more often in patients with SF compared to healthy individuals: • cold hands and / or feet;
- ✓ dry mouth and eyes (“dry syndrome” with a positive Schirmer test);
- ✓ hyperhidrosis (usually of the hands), excessive sweating;
- ✓ dermatographism;
- ✓ Orthostatic disorders.

Usually, SF patients have at least 3 functional or autonomic disorders. The frequent detection of various psychological disorders in SF has led to the existence of an opinion about SF as a variant of psychosomatic disorders or one of the manifestations of somatized depression, since it is depressive states that were most often recorded in SF patients using the MMPI test (the most common questionnaire that identifies psychological disorders such as hysteria, depression, anxiety, etc.). Along with depression in the group of patients with SF (compared with patients with rheumatoid arthritis and with healthy individuals), an increase in the frequency of anxiety disorders and hypochondria is revealed. However, in the first months of the disease, psychological disorders cannot be detected in patients with SF, and when the disease is more than 2 years old, they occur in 2/3 of patients. In families of patients with SF, the frequency of major affective disorders is higher.

Psychological status in SF

Major psychological disorders: depression, hypochondria, anxiety;

- By the time they see a doctor, 30 - 60% of patients have psychological disorders (with rheumatoid arthritis - 7%);
- When SF disease is less than 2 years old, psychological disorders are practically not detected. Until now, there is no unambiguous view of depression as a cause or effect of SF. An interesting fact is that in SF there is an inversely proportional relationship between the plasma concentration of tryptophan and the severity of muscle pain, which supports the hypothesis of the role of serotonin deficiency resulting from a defect in amino acid homeostasis in the development of SF. The mechanisms of the development of the algic syndrome in SF can be varied, especially since no pathological changes in the muscles and ligaments were revealed by light microscopy. The following mechanisms of pain development are most often discussed.

Mechanisms of pain development in SF:

- nociceptor pain - an increase in the sensitivity of pain receptors in response to endogenous algic agents;
- Neurogenic inflammation associated with the release of neuropeptides from the peripheral endings of primary sensory neurons (substance P, neurokinin A, etc.);
- neuropathic pain arising from tunnel syndromes;

- reactive pain in response to dysfunction of the motor system and muscle hypertonicity;
- central mechanism of pain as a result of decreased inhibitory control of spinal neurons;
- Psychosomatic pain as pain arising from emotional depression or social stress. In laboratory studies of inflammatory, biochemical, immunological, hormonal parameters in SF, no deviations from the norm are found. Thus, the diagnosis of SF at this stage is a clinical diagnosis. Anamnesis is of great importance for the diagnosis of SF: the relationship between the onset of the disease and further exacerbations with stress, a slow onset, the absence of long-term remissions (painless intervals with SF in 85% of cases are no more than 6 weeks). Nevertheless, the differential diagnosis includes a fairly wide range of pathological conditions.

Differential diagnosis of SF

- ✓ inflammatory diseases of joints and muscles (rheumatoid arthritis, seronegative spondyloarthropathies, polymyositis);
- ✓ diffuse connective tissue diseases;
- ✓ Endocrine diseases (hypothyroidism, thyroiditis, diabetic polyneuropathy); • degenerative diseases of the spine; • metabolic myopathies (enzyme defects, changes in serum K levels, vitamin D deficiency, etc.);
- ✓ viral diseases;
- ✓ Para neoplastic syndrome;
- ✓ Drug myopathies (corticosteroids, anesthetics, clofibrate, allopurinol, chloroquine, D-penicillamine, vincristine, L-tryptophan, aminocaproic acid, etc.).

Detection of objective clinical, laboratory or instrumental data characteristic of diseases, the symptom complex of which includes myalgic syndrome, or anamnestic data on the possibility of iatrogenic myopathy development exclude the diagnosis of SF (see table).

SF treatment

Treatment of SF is a rather difficult task. Long-term, often erased clinical picture, lack of epidemiological studies, insufficient awareness of doctors about this syndrome leads to patients going from doctor to doctor. Comments such as "You have nothing," "You are a hypochondriac," "You are pretending," "This is hysteria," are well known to patients with SF. Treatment of these patients should begin with the diagnosis and clarification of their condition. If possible, they correct provoking factors, give recommendations on the regime and behavior. Taking a warm bath in the morning, removing additional loads, organizing rest can already give patients relief. SF therapy with unknown etiopathogenetic factors is symptomatic, directed against the leading symptoms: pain, fatigue, sleep disturbances and psychological disorders. Physiotherapy measures, unfortunately, give a short-term effect; in a rather high percentage of cases (up to 40%) they can be accompanied by undesirable reactions (tachycardia, hypertension or hypotension, extrasystole, dizziness).

The purpose of physiotherapy in SF:

1. Pain relief (baths, massage, vimoton, infrared rays, cryotherapy).
2. Decreased muscle tone (high-frequency, medium-frequency and low-frequency electric waves, baths, massage, vimoton).

3. Relaxation of connective tissue (ultrasound).
4. Muscle hyperemia (infrared rays).
5. Improving muscle function (neopharadic threshold waves, isometric training, vimoton).

The effectiveness of thermal procedures was noted in 30-40% of patients, massage - in 20%, sunbathing - in 12% and exercise therapy - in 9% of patients (with SF, group exercise is more effective than individual exercise therapy). The positive effect only in 1/3 of patients lasts more than 1 month, usually it lasts for 1-4 weeks (in 30% of patients) or for several days or even hours (in 37% of patients). Manual therapy, as a rule, causes an increase in pain in SF; acupuncture is rarely effective. SF pharmacotherapy is primarily aimed at relieving pain.

Analgesics used for SF:

- central action (tramadol);
- peripheral action (anti-inflammatory drugs, paracetamol);
- Auxiliary analgesics (antidepressants, antipsychotics, muscle relaxants).

The appointment of non-hormonal and hormonal anti-inflammatory drugs, as well as local anesthesia of pain points, practically does not give an effect, only a short-term decrease in pain can be observed in the first 2 to 3 days of treatment. The number of drugs prescribed to improve sleep is also limited. Sedatives and hypnotics are not indicated, as they tend to decrease stages III and IV of sleep. The analgesic effect of antidepressants has been known since their use in clinical practice, later they were used to treat all types of chronic pain. Their analgesic effect is realized through: 1) addition of the IV phase of sleep; 2) the effect on the metabolism of serotonin, leading to an increase in the production of endorphins; 3) effects on pain peptides; 4) influence on the synthesis of kinins and prostaglandins. Taking into account the frequent detection of depressive states in patients with SF, antidepressants have been extensively tested in this disease. It is noted that it is desirable to start therapy with low doses of tricyclic (amitriptyline 10-25 mg per day) or tetracyclic (ludiomil 25-50 mg per day) antidepressants, gradually increasing the daily dose to 50 and 75 mg, respectively, which is tolerated by a large number of patients. It is advisable to start this therapy in a stationary setting with intravenous injections in combination with antipsychotics (haloperidol or tizercin) at initially low doses. The clinical effect is manifested by a decrease in pain, the number of painful points, an improvement in the quality of sleep, but it persists only during treatment.

The use of cyclobenzaprine, which has not only muscle relaxant, but also a mild antidepressant effect, in daily doses of 10 - 30 mg leads to a decrease in diffuse pain, the number of pain points, improved sleep, reduced stiffness, fatigue, and anxiety. Tizanidine, prescribed at 6-12-16 mg per day, also demonstrated clear analgesic properties in SF. Our trial of tramadol in SF has shown its effectiveness in more than 60% of patients. It is interesting to note that pain relief is noted by most patients with SF within 3 - 5 days after starting tramadol in a daily dose of 100 mg, which suggests that the analgesic effect of the drug in SF is not realized through central mechanisms (while pain relief occurs after 15 - 30 minutes), but through the effects of tramadol on serotonin receptors. By the month of continuous therapy, not only the levels of pain and stiffness significantly decrease, but also the sleep, the psychological state of the patients improves, and the working capacity increases. In the absence of a clinical effect from taking the drug at a dose of 100 mg per day, the dose of tramadol is increased by 50 mg 1 time in 1 - 2 weeks to 200 - 300 mg per day, which makes it possible to achieve an effect in a number of patients. Long-term therapy (4-6 months) leads to a decrease in the severity of autonomic and functional disorders, restoration of the normal level of pain threshold in the area of painful points (in 15-20% of patients). After discontinuation of tramadol, the clinical effect in most cases persists for

1-6 months, after which a slow increase in the manifestations of SF is observed. The drug is well tolerated in SF. It should be noted that most pharmacotherapeutic measures are effective in patients with SF in about 50% of cases, provide temporary improvement, and drug-induced remissions of the disease are extremely rare. Apparently, it is necessary to combine the efforts of specialists in various fields (therapists, neuropathologists, orthopedists, psychologists and psychiatrists) to understand this disease and develop treatment programs.

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