

## Fibromyalgia: diagnosis and management by a general practitioner

GIUSEPPINA SINAGUGLIA

Via Vincenzo Di Marco 43, 90143 Palermo, Italy; e-mail: giuseppinasinaguglia@tiscali.it

### SUMMARY

Fibromyalgia, or Fibromyalgia Syndrome, is a neurologic chronic health condition that cause pain and sensitive areas that cause pain when pressure is applied (tender points) during physical examination. It is often associated with a variety of different symptoms such as fatigue, sleep problems, migraine, digestive problems, depression or anxiety. In this work are data summarized the data on fibromyalgia derive from the my direct experience of general practitioner that have been integrated with the most recent international bibliography on this pathology.

### KEY WORDS

Fibromyalgia; Fibromyalgia Syndrome; pain; diseases; tender points; General Medicine.

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### INTRODUCTION

Fibromyalgia, or Fibromyalgia Syndrome, is a neurologic chronic health condition as defined by the American College of Rheumatology that cause widespread pain and sensitive areas that cause pain when pressure is applied (tender points) during physical examination. It is often associated with a variety of different symptoms such as fatigue, sleep

problems, migraine, digestive problems, depression or anxiety.

This condition is called “syndrome” because the same patient can have signs (what the doctor finds at the visit) and symptoms (what the patient reports) simultaneously present and different from each other, as described above.

This pathology has been known since ancient times. Pain from chronic fatigue of the muscles is among the main symptoms of fibromyalgia, just like after intense and prolonged physical exertion.

In 1992, fibromyalgia has been recognized as a autonomous disease by the World Health Organization and it has been classified under the code M79.7 in the International Classification of Diseases.

### MATERIAL AND METHODS

The data summarized in this work on fibromyalgia derive from the direct experience at my General Medicine clinic. In addition, they have been integrated with the most recent international bibliography on this pathology (GRACELY ET AL., 2002; PETROVIC ET AL., 2002; SALAFFI ET AL., 2005; WEIR ET AL., 2006; GUEDJ ET AL., 2007; HARRIS ET AL., 2007; HARRIS ET AL., 2009; WATKINS ET AL., 2009; BRANCO ET AL., 2010; FERACO ET AL., 2011; FITZCHARLES ET AL., 2012; FOERSTER ET AL., 2012; KADETOFF ET AL., 2012; CLAUW, 2014; CAMPO & MASTROSIMONE, 2015; EFRATI ET AL., 2015; HAUSER ET AL., 2015; JONES ET AL., 2015; LITTLEJOHN, 2015; GOLDENBERG ET AL., 2016). The analysis of the literature is updated up to July 2017.

### RESULTS

#### *Epidemiology*

Fibromyalgia is more common in women than in men, and can develop at any age. Its prevalence in the world population is around 2%.

## Symptoms

The list of symptoms reported by patients includes: widespread chronic pain, problems related to sleep, fatigue, headache, facial pain, extreme sensitivity to touch, difficulty in concentration, feeling of numbness/tingling, anxiety, depression, low back pain, joint pain, muscle stiffness, or leg cramps.

Pain is the predominant symptom of fibromyalgia. It is a pain that almost always affects the whole organism, even if sometimes it can be first localized to certain areas (neck, spine, lumbar, thorax, limbs, other sites) and then spread to other sites. Pain can be felt on the right or on the left, above and below the belt. It is a burning, excruciating, dense pain, like something biting; it is described with the most catastrophic and particular adjectives. Often, the patient describes muscular contractures, fasciculations (vibrations of the muscle), sensations of stiffness, tingling, swelling. It is not uncommon that the patient first describes a localized pain (in the spine, shoulders, legs, knees) just to report its spread with a feeling of stiffening, of deficiency of function, spread throughout the body. Pain is more likely to happen with by any object that tighten or wrap, such as socks, sweaters, clothes, jewelry. The patient often describes tension to the muscles, feeling of restless legs, especially during night's rest. Pain can also be felt in the chest, such as "pain in the heart", of such intensity as to take your breath away. Particular positions, repetitive movements and obligatory postures can favor its appearance. The patient can describe arthralgia in the hands and in other articulations with swelling and limitation of the function; these are characteristics that could be mistaken as an inflammatory rheumatism.

Pain may vary in intensity during the day and may be favored by weather changes. It can be felt more in stressful situations, in states of tension, in particular moments of life, or even when overworking. In some patients it can take on the characteristics of hyperalgesia (excessive pain from the stimulus that generated it) and of allodynia (pain from stimuli which generally do not cause pain). The patient hardly has periods without pain, even though there may be periods of relative well-being. As the clinical visit highlights, pain can be felt when touching the tender points. The painful tender points have been clearly mapped.

Another fundamental symptom, almost always present, is fatigue, that can be so debilitating as to force the patient to sleep for long periods of the day. Chronic fatigue syndrome is the most extreme form. Often, simple jobs or moderate physical activity can

cause asthenia, which is why the fibromyalgia patient avoid most if not any motor activity. As mentioned, other signs and symptoms may be present. Tension headache and migraine are frequent, and the presence of sleep disorders with not restorative restless sleep and early awakening is common. Symptoms related to irritable bowel with abdominal pain and alternation of constipation and diarrhea, bladder disorders with frequent urination and urinary burning, genital tension with discomfort to touch are common. Patients often report difficulties in concentration, chest weight, anxiety, depression, feeling of not being able to cope and inadequacy. There may be a feeling of swallowing something, a sense of suffocation.

It is therefore natural the concern of the patient and their family when facing these symptoms and the following request for continuous laboratory and instrumental diagnostic tests, often repeated, source of diagnostic errors and unnecessary therapies. All this is worsened by the skepticism of many doctors towards the effective presence of this syndrome (a disease that is not there) with summary "psychiatric" and / or "neurotic" judgments towards these patients, causing frustration in the patients.

## Etiology

The etiology of this syndrome is not yet defined.

The leading etiopathogenetic hypothesis is related to the mechanism of centralization of pain. The dysregulation of the central nervous system in the mechanisms of pain control seemed to be responsible for the amplification of the pain itself, as well as for the other symptoms of the disease (memory disorders, fatigue and depression).

There is a reduction in the ability to modulate pain. In particular, the serotonergic-noradrenergic activity seems to be compromised, an element supported by the therapeutic benefits provided by the serotonin and norepinephrine reuptake inhibitors (SNRI).

Furthermore, it was found that the levels of glutamate are increased in the cerebrospinal fluid, while the levels of gamma aminobutyric acid (GABA) decreased. This is reflected in the clinical benefits observed with the administration of pregabalin and memantine, which act on the glutamatergic system.

## Criteria for the diagnosis

The diagnosis is based on the main symptoms reported by the patient, on specific diagnostic criteria and on the exclusion of other similar pathologies. Un-

fortunately, due to the multifaceted clinical picture, for a person suffering from fibromyalgia more than two years on average are needed before the diagnosis.

The laboratory tests recommended by the international literature for an initial evaluation are: blood count with formula, C-reactive Protein (CRP) and VES, followed by tests to exclude rheumatic diseases.

The diagnosis of fibromyalgia is clinical and 3 criteria must be met simultaneously:

1. Widespread pain in specific areas and regions of the body in both sides of the body (right and left). At least 11 of the 18 tender points specific to this syndrome cause pain by touching;
2. Presence of characteristic symptoms (asthenia, non-restorative sleep, cognitive problems, migraine, abdominal pain / cramps, depression) that compromise daily life;
3. Duration of the symptomatology for at least 3 months.

### **Take Charge**

Historically, the diagnosis and treatment of fibromyalgia have fallen within the competence of rheumatology.

Currently, rheumatologists and many other specialists agree in recommending that the initial care of the patient affected by fibromyalgia takes place in the setting of Primary Care by the General Practitioner, within a multi-professional and interdisciplinary team, as it is already the case for tackling various chronic diseases.

This team should include pain therapists, psychologists, psychiatrists and physiotherapists in addition to rheumatologists and the family doctor.

### **Multidisciplinary therapy**

The purpose of the pharmacological therapy is to control the pain through two methods: central (like tramadol) and peripheral (minor analgesics, classic anti-inflammatory analgesic drugs; and pain-control drugs, as in the case of antidepressants that "raise" the pain threshold, thus making the patient feel less the pain. The antidepressant drugs used in this case are: the tricyclics (amitriptyline), serotonin reuptake inhibitors (paroxetine, fluoxetine, sertraline, venlafaxine escitalopram), drugs with combined mechanisms of action (duloxetine), and "anti epileptic" drugs such as gabapentin or pregabalin. Sedative or hypnotic drugs may be used if the patient has symptoms of anxiety and agitation or sleep disorders.

Among the central analgesic drugs, tramadol, for its particular type of action, is considered helpful, while major narcotic analgesics are generally not recommended, except in very selected cases. Muscle relaxants may have benefits, in the individual case.

Regarding the use of cannabinoids, at the moment, there is no clear scientific evidence on the risk / benefit profile of cannabis for medical use due to the poor methodological quality of the available studies. The medical benefit of cannabis cannot be considered a proper therapy, but rather a symptomatic treatment to support standard treatments. For example, when the latter have not produced the desired effects or have caused undesirable side effects, or they require dosage increases that could result in the appearance of important side effects.

Various "complementary" therapies have been screened, including the efficiency of alternative medicine. Relaxation, meditation, hypnosis, self-support, and biofeedback techniques have been experimented. Acupuncture, manipulation techniques, the mud bath therapy, the use of medical herbs and physiotherapeutic techniques such as TENS (Transcutaneous electrical nerve stimulation) have been evaluated as effective. The most favorable data are related to techniques that try to relax the body and "control" the mind, such as biofeedback techniques, hypnosis, and cognitive behavioral therapy.

Regular aerobic physical activity is essential. The benefits of regular aerobic activity (running, swimming, but also dancing and other aerobic physical activities) have been proved by many studies. Physical activity improves personal performance, makes the muscle less vulnerable to external environmental stimuli, improves exercise tolerance, improves the central reception of pain, positively modifies endorphins that inhibit pain, relaxes the mind and spirit. The patient is often tired and would avoid moving, as physical activity seems to tire them more frequently. Moreover, the patient will realize that the effort to start and continue regular physical activity will make them feel less pain.

Thus, physical activity: improves personal performance, makes the muscle less vulnerable to external environmental stimuli, improves stress tolerance, improves the central reception of pain, increases the release of endorphins that inhibit pain.

## **CONCLUSIONS**

The focal points of the therapeutic strategy are therefore: a correct diagnosis, the assessment of the severity of the disease, personal education (commu-

nication) on the cause of the disease trying to emphasize the trigger factors, a good prognosis, the importance of correct lifestyles, regular physical activity, techniques of relaxation.

It is possible to intervene later with drugs, starting with low doses of tricyclics or with so-called SSRI (Selective Serotonin Reuptake Inhibitors), especially if the patient is depressed and / or with analgesics. Psychological and psychiatric support will be important when necessary and, for "complex" cases, an interdisciplinary program will be customized based on the patient's education, on psychotherapeutic techniques, on regular physical exercise, on the use of drugs, and on an adequate occupational therapy.

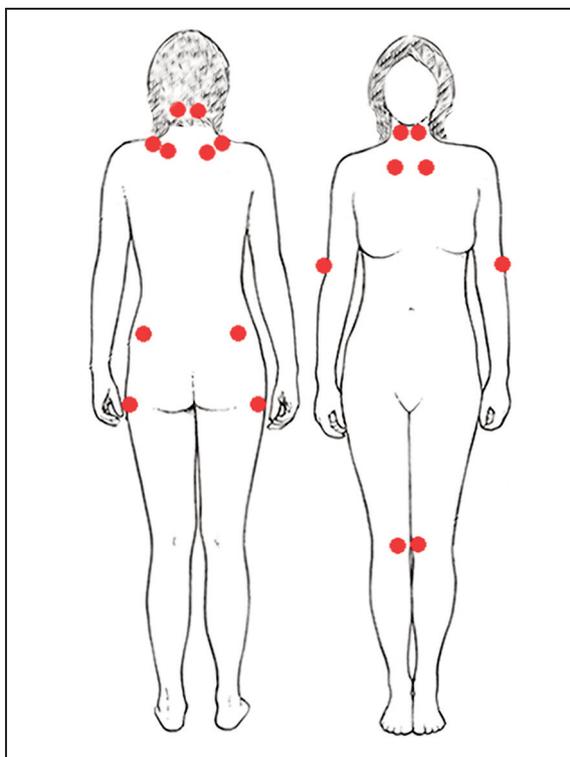


Figure 1. Tender points for the diagnosis of Fibromyalgia. Occipitus: suboccipital muscle insertions. Trapezius: midpoint of the upper border. Supraspinatus: above the medial border of the scapular spine. Gluteal: upper outer quadrants of buttocks. Greater trochanter: posterior to the trochanteric prominence. Low cervical: anterior aspects of the intertransverse spaces at C5 to C7. Second rib: second costo-chondral junction. Lateral epicondyle: 2 cm distal to the epicondyles. Knee: medial fat pad proximal to the joint line.

Fibromyalgia should be a potentially reversible disease if treated properly. Body weight control, with the help of a healthy diet and adequate physical exercise, is essential in order to improve the clinical symptomatology of these patients. In particular, calories control, reduction of saturated fats, preferring fruits and vegetables, and the introduction of cereals - preferably integral - seem to improve the metabolic pattern. In addition, any dietary prescription can not disregard the creation of an energy deficit that respects the overall balance of nutrients as much as possible, preserving the nitrogenous balance and the lean mass through an adequate protein intake.

To date, a specific diet is not available. However, from the literature some indications on a healthy diet emerge: 5 meals a day, limit simple sugars, prefer complex carbohydrates rich in fiber, limit red meat consumption and prefer other sources of animal proteins (fish, poultry, rabbit, eggs, dairy products and cheese if the patient does not have lactose intolerance or high cholesterol), reduce salt use and maintain proper hydration, avoid spirits, increase consumption of foods naturally rich in antioxidants - e.g., eat plenty of seasonal fresh fruit and vegetables - use olive oil (due to the presence of vitamins and unsaturated fatty acids), limit the use of coffee and tea, prefer green tea (rich in antioxidants) and barley or malt.

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