

Research

Clinical Brief: Challenges with the Differential Diagnosis of Fibromyalgia

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ABSTRACT

Fibromyalgia (FM) is a diagnosis of exclusion used to describe patients with a cluster of symptoms that are not attributed to a recognized disease process. The hallmark symptom of FM is chronic widespread pain which is bilateral, above and below the waist, and involving the axial skeleton and/or torso. The symptom cluster also includes unrefreshing sleep, fatigue, cognitive difficulties, and a number of somatic complaints. Unfortunately, FM is often misdiagnosed because these symptoms may also be found associated with latent pathology or disease, metabolic/functional disorders, or chronic musculoskeletal disorders. All clinicians who treat chronic pain patients should learn how to differentiate between FM and other causes of widespread pain and fatigue.

Definition and Diagnostic Criteria

The term “Fibromyalgia” (FM) first appeared in the medical literature in 1990, with the publication of a classification consensus document¹ by the American College of Rheumatology (ACR). In that publication, the ACR proposed two simple criteria for classifying patient as having FM:

1. Tenderness to pressure over at least 11 of 18 specified “tender points” and
2. History of chronic widespread pain.

Tenderness was defined as less than 4 kg/cm² of pressure and widespread pain was defined as axial pain, left-and-right-sided pain, and upper-lower extremity pain.

More recently, the ACR has published a new set of revised diagnostic criteria for fibromyalgia². The new criteria do not require any physical examination of the patient, and rely on self-reported symptoms by the patients using a composite score from 2 items:

1. widespread pain index (WPI) questionnaire and
2. a symptom severity (SS) scale.

The WPI is essentially a list of 19 different body regions, which is used to record the number of painful regions. The SS scale consists of categorical scales for cognitive symptoms, unrefreshed sleep, fatigue, and the number of somatic symptoms. For yet unknown reasons, FM affects females about 10 times more frequently than males.

Etiology

In the 1990's it was originally thought that FM might represent a variant type of auto-immune disorder or some other rheumatological disease process. Yet the research failed to show any specific inflammatory biomarkers suggestive of true soft tissue pathology. The research of the past decade basically suggests that the widespread pain associated with FM is part of a wider central sensitization syndrome (CSS) involving aberrant pain processing within the central nervous system³. Studies using fMRI of the brain have shown clear increases in limbic activation in FM with non-noxious stimuli as compared to healthy normal controls⁴.

It appears that the onset of FM typically involves some type of external trigger combined with an internal genetic predisposition for developing a CSS syndrome. There is an increased prevalence of FM among family members and genetic polymorphisms have been found in FM related to serotonin and dopamine receptors⁵. The external triggers can include: physical trauma or abuse, psychological distress, infections, chronic peripheral pain syndromes. Non-restorative sleep, fatigue, and cognitive dysfunction are common in FM. Multiple somatic complaints related to autonomic dysfunction are also found in most FM patients, such as: irritable bowel, Raynaud's, frequent urination, odd paresthesias, etc.

The ACR criteria clearly state that a diagnosis of FM should not be considered unless the pain pattern was truly widespread and chronic (at least 3 months duration), and that no other disease process was found that would account for the chronic widespread pain. However, the issue of misdiagnosis appears to be prevalent within the general medical community. In one study performed at a large FM specialty-clinic, the diagnosis of FM could only be confirmed in 34% of the patients who were referred to that clinic with the tentative diagnosis of FM.⁶ In any other medical condition a misdiagnosis rate of 66% would be considered unacceptable and suggests that these misdiagnosed cases actually have some other condition(s) that is causing their symptoms.

Differential Diagnosis

When a patient presents with the chief complaints of chronic widespread pain and fatigue, the first step is to rule out the most common disease processes that could be the cause of these symptoms. Routine laboratory testing of a blood sample can screen for the following common diseases that can cause widespread pain and fatigue: anemias, hypothyroidism, rheumatoid arthritis, Lyme disease, polymyalgia, liver disease, dysglycemias, and hypovitaminosis D.

There are also more serious pathologies that can cause widespread pain and fatigue including: leukemia, metastatic disease, multiple sclerosis, myelopathy, and others.

Once the patient with widespread pain and fatigue has been cleared of any potential systemic disease, the diagnostic process should go on to consider potential musculoskeletal causes.

Most primary care physicians are not well trained in musculoskeletal (MSK) diagnosis⁷ and may not be able to differentially diagnose myofascial pain, scleratogenous referred pain, or discogenic pain. Some patients given the diagnosis of FM may actually have one or more of these common MSK types of pain as the cause of their presenting complaint.

There is also the possibility that a patient with widespread pain and fatigue is suffering from some type of metabolic dysfunction that has not reached the point of frank pathology. Examples would include: patients who are experienced widespread pain as a side effect of statin medication, patients whose thyroid hormone levels are at the lower tail of normal values, and patients with low Vitamin D levels. In one study of patients with frank myopathy due to use of statin medication,⁸ it was noted in many cases that their liver enzymes and creatine kinase levels were not elevated with routine blood screening tests.

The diagnosis of FM should only be rendered to those patients with chronic widespread pain and fatigue for whom no other medical disease, musculoskeletal condition, or metabolic dysfunction can be found. A diagnostic algorithm that provides a visual overview of the differential diagnosis of FM and these other conditions was published by Schneider et al.⁹

Treatment

Various guidelines have been published that outline the most evidence based treatments for FM, including those published by the American Pain Society (APS).¹⁰ The standard medical approach to the clinical management of FM consisted of a combination of 3 basic treatments: (1) Low dose anti-depressant medications; (2) Cognitive behavioral therapy; and (3) Mild aerobic exercise. The APS guidelines also recommended the use of several complementary and alternative therapies, including: acupuncture, hypnosis, spa therapy, gentle manipulation and massage.

It is important to note that these recommendations for treatment are applicable only to those patients who truly meet the diagnostic criteria for FM. Patient who present with widespread pain and fatigue as their chief complaint need a full medical evaluation to rule out: (1) Other internal diseases that require medical management; (2) Other musculoskeletal disorders that require chiropractic or physical therapy management; or (3) Other metabolic dysfunction that require additional examination or testing. The key to a successful clinical outcome is the ability to match the proper treatment with the cause of the widespread pain and fatigue.

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