FIBROMYALGIA

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Fibromyalgia is a common cause of chronic widespread musculoskeletal pain, often accompanied by fatigue, cognitive disturbance, psychiatric symptoms, and multiple somatic symptoms.

It was initially described in France and England in the 1800’s and termed Fibrositis.

In the United States:
- prevalence is 2-3%,
- 6 times more common in women than men
- most commonly occurs between the ages of 20 and 55
CLINICAL MANIFESTATIONS

Symptoms

• Chronic, diffuse musculoskeletal pain, punctuated by episodic “flare ups”
  • “It feels like I always have the flu; It feels like I ran a marathon; I feel bruised all over; It hurts all the way to the bone.”

• Fatigue and non-restorative, fragmented sleep; this compounds the underlying problem

• Cognitive disturbance, often termed “Fibro Fog”; decreased mental acuity and clarity

• Psychiatric symptoms: depression and anxiety are present in 30-50% of patients with FM

• Headaches, paresthesias, pelvic (IC) and abdominal pain and dysfunction (IBS)
CLINICAL MANIFESTATIONS
Physical Examination Findings

- Tenderness to palpation, with possible temporal variability.
- Palpating with 4 kg/sq. cm, whiten the nail bed of the examiner
CLINICAL MANIFESTATIONS
Diagnostic Studies

• FM does not cause any abnormalities in routine clinical laboratory testing or imaging.
PATHOPHYSIOLOGY

- Genetic predisposition: A number of observational and biologic studies suggest that chronic widespread pain and FM have, in part, a genetic basis. First-degree relatives of patients with FM are 8.5 times more likely to have FM than relatives of patients with rheumatoid arthritis.

- Altered pain processing: Alterations in pain and sensory processing in the central nervous system are present in FM. Patients perceive noxious stimuli, such as heat, electrical current, or pressure, as being painful at lower levels of physical stimulation than do healthy controls.
PATHOPHYSIOLOGY

- Neurohormonal perturbations: Hyperactivity of the stress response, demonstrated by abnormalities of the hypothalamic-pituitary-adrenal (HPA) axis, has been found using different baseline and provocative testing, although the precise nature of these changes has not been elucidated.

- Autonomic Nervous System Dysfunction

- Immune system changes — There is little evidence to support the concept that FM is an immune mediated disorder. Autoantibodies with affinity for a 68/48 kD protein have been found in a subset of patients with FM but not in healthy controls. Other cytokine changes have been reported, but studies have not been consistent or controlled well.
DIAGNOSIS
1990 ACR FM classification criteria

• The final 1990 ACR FM classification criteria included:
  • Symptoms of widespread pain, occurring both above and below the waist and affecting both the right and left sides of the body
  • Physical findings of at least 11 of 18 defined tender points

• The tender points represent heightened pain perception rather than sites of inflammation or tissue pathology. Thus, they are proxies for detecting widespread pain, and the exact number necessary to diagnose FM clinically is somewhat arbitrary.
Some investigators have advocated not using the tender point examination as part of the FM diagnostic criteria and relying only upon symptoms;

The 2010 ACR preliminary diagnostic criteria (2010 criteria) for FM provide an alternative approach to diagnosis and classification, which does not require a tender point examination, but does provide a scale for measurement of the severity of symptoms that are characteristic of FM. These criteria also recognize the importance of cognitive problems and somatic symptoms in patients with FM that were not considered in the 1990 ACR classification criteria.
A patient satisfies The 2010 diagnostic criteria for fibromyalgia if the following three conditions are met:

1) Widespread pain index (WPI) $\geq 7$ and symptom severity (SS) scale score $\geq 5$; OR
   a) WPI 3 to 6 and SS scale score $\geq 9$

2) Symptoms have been present at a similar level for at least three months

3) The patient does not have a disorder that would otherwise explain the pain
DIAGNOSIS:
WIDESPREAD PAIN INDEX (WPI)

- Note the number areas in which the patient has had pain over the last week. Score will be between 0 and 19.
  1) Neck
  2) Jaw, left
  3) Jaw, right
  4) Shoulder girdle, left
  5) Shoulder girdle, right
  6) Upper arm, left
  7) Upper arm, right
  8) Lower arm, left
  9) Lower arm, right
  10) Chest
  11) Abdomen
  12) Upper back
  13) Lower back
  14) Hip (buttock, trochanter), left
  15) Hip (buttock, trochanter), right
  16) Upper leg, left
  17) Upper leg, right
  18) Lower leg, left
  19) Lower leg, right
DIAGNOSIS: SYMPTOM SEVERITY SCALE SCORE

For the each of the three symptoms below, indicate the level of severity over the past week using the following scale:

0 = no problem
1 = slight or mild problems, generally mild or intermittent
2 = moderate, considerable problems, often present and/or at a moderate level
3 = severe, pervasive, continuous, life-disturbing problems

- Fatigue (0 to 3)
- Waking unrefreshed (0 to 3)
- Cognitive symptoms (0 to 3)
DIAGNOSIS:
SYMPTOM SEVERITY SCALE SCORE

- Considering somatic symptoms in general, indicate whether the patient has:
  - No symptoms (0)
  - Few symptoms (1)
  - A moderate number of symptoms (2)
  - A great deal of symptoms (3)

- Somatic symptoms that might be considered:
  - IBS, fatigue/tiredness, thinking or remembering problem, muscle weakness, headache, pain/cramps in the abdomen, numbness/tingling, dizziness, insomnia, depression, constipation, pain in the upper abdomen, nausea, nervousness, chest pain, blurred vision, fever, diarrhea, dry mouth, itching, wheezing, Raynaud phenomenon, hives/welts, ringing in ears, vomiting, heartburn, oral ulcers, loss of/change in taste, seizures, dry eyes, shortness of breath, loss of appetite, rash, sun sensitivity, hearing difficulties, easy bruising, hair loss, frequent urination, painful urination, and bladder spasms.
DIAGNOSIS:
SYMPTOM SEVERITY SCALE SCORE

• The SS scale score is the sum of the severity of the three symptoms (fatigue, waking unrefreshed, cognitive symptoms) plus the extent (severity) of somatic symptoms in general. The final score is between 0 and 12.
DIFFERENTIAL DIAGNOSIS

• The multiple nonspecific symptoms of fibromyalgia (FM) can mimic many other conditions, and consideration of the differential diagnosis is important in making the diagnosis of FM. The history and physical examination, as well as limited laboratory testing, are usually sufficient to differentiate FM from these other conditions, such as systemic inflammatory arthropathies, spondyloarthritides, systemic autoimmune (“connective tissue”) disorders, polymyalgia rheumatica, inflammatory myopathy, and hypothyroidism.
TREATMENT

• Treatment of fibromyalgia is directed at reducing the major symptoms of this disorder, including chronic widespread pain, fatigue, insomnia, and cognitive dysfunction. A variety of modalities are employed, using a stepwise approach:

• Medications:
  • SNRI: Duloxetine (Cymbalta) 30mg daily to tid
  • NSRI: Milnacipran (Savella) 25 to 50mg daily to bid
  • Anticonvulsants:
    • Gabapentin (Neurontin, Gralise, Horizant);
    • Pregabalin (Lyrica) 75mg bid, up to 450mg daily
  • Tricyclics: Amitriptyline 10mg to 25mg at hs; I do not recommend due to cognitive disturbance
  • Opiates/Opioids: Tramadol, TC #3/#4, Hydrocodone/Oxycodone/Nucynta (Dual Mechanism)
TREATMENT

• Exercise and Physical Therapy:
  • Water based PT preferred over land based to decrease impact

• Psychological Interventions:
  • CBT, Relaxation Techniques

• Alternative and Complementary Therapies:
  • Tai Chi, Yoga, Acupuncture (all with limited evidence)
PROGNOSIS

• Fibromyalgia is not a life-threatening, deforming, or progressive disease. Without proper diagnosis and treatment, however, a patient with fibromyalgia may perceive their condition to have disease progression.
FUTURE DIRECTION

• Multiple theories expanding upon existing models