Fibromyalgia: Where to Begin?

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In 1990, the American College of Rheumatology published a set of diagnostic classification criteria for fibromyalgia based on a North American multi-centre study comparing 293 patients with fibromyalgia with 265 control patients with other rheumatic disorders that could be confused with fibromyalgia.[1] The aim of this criteria is to assist clinical studies in selecting uniform fibromyalgia patients in different academic centres and not to diagnose individual fibromyalgia cases. The criteria includes a history of at least three months of widespread pain that is:

- bilateral,
- is both above and below the waist and
- includes axial skeletal pain.

The physical exam must exhibit tenderness to palpation, with approximately 4 kg of pressure at a minimum of 11 of 18 pre-defined tender points (Table 1). The diagnosis of fibromyalgia is not excluded by the presence of other diseases. That is, fibromyalgia can co-exist with other concurrent illnesses.

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Meet Judy

- Judy, a 53-year-old real estate agent has a family history of osteoarthritis
- She also has been affected with relatively early onset osteoarthritis. This has affected her:
  - cervical spine,
  - lumbar spine and
  - hands in the distal and proximal interphalangeal joints
- Over the past few years, she has used 200 mg of celecoxib q.d., for her osteoarthritis management
- Judy's past health has been unremarkable
- She is on calcium and vitamin D supplementation
- She is post-menopausal for two years
- Over the past six months, she has felt more pain in her:
  - neck,
  - lower back,
  - hands
  - shoulders,
  - upper back,
  - gluteal regions and
  - knees
- She changed her medication from celecoxib to 75 mg of diclofenac and misoprostol, b.i.d., but this has not been helpful
- Her sleep has been disturbed and her overall energy has been poor
- Her work efficiency has decreased and she seems to tire easily
- On exam, other than the usual osteoarthritic changes in her fingers, she also has 10/18 tender points

What's Judy's diagnosis? Read on...

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Table 1

Tender points in fibromyalgia diagnostic classification criteria

Occiput:	bilateral, at the suboccipital muscle insertions
Lower cervical:	bilateral, at the anterior aspects of the intertransverse spaces at C5-C6
Trapezius:	bilateral, at the midpoint of the upper border
Supraspinatus:	bilateral, at origins, above the scapula spine near the medial border
Second rib:	bilateral, at the second costochondral junctions, just lateral to the junctions
Lateral epicondyle:	bilateral, 2 cm distal to the epicondyles
Gluteal:	bilateral, in upper outer quadrants of the buttocks
Greater trochanter:	bilateral, posterior to the trochanteric prominence
Knee:	bilateral, at the medial fat pad proximal to the joint line

Diagnosis

This diagnostic criteria does not apply to individual case diagnosis. Hence, as in Judy's case, even though she has only 10 tender points, she can be diagnosed and treated as having fibromyalgia, in addition to her background problem of osteoarthritis.

One can diagnose fibromyalgia in an individual patient who has less than 11 tender points in the classification criteria, as long as the patient also has the widespread pain and associated symptoms seen in the fibromyalgia setting.[2]

Fibromyalgia affects 1% to 4% of the general population. Overall, about 80% of those with fibromyalgia are women. It can affect all ages, even in young children.[3] The economic impact of this condition has been estimated to be significant. The cardinal symptom of fibromyalgia is diffuse, chronic pain. Patients with this condition typically report that it hurts all over. Also, they often have other associated symptoms including:

- headaches,
- numbness in extremities,
- sleep disturbances,
- easy fatigue and
- irritable bowel symptoms.

Pitfalls of diagnosis

One of the pitfalls in diagnosing fibromyalgia is not to miss other conditions which can mimic fibromyalgia. Some of these conditions are listed in Table 2. These conditions can also coexist with fibromyalgia. With fibromyalgia coexisting in the background, a primary condition may indeed present in a more symptomatic manner due to the pain-amplification nature of fibromyalgia.

Fibromyalgia should not be treated as a garbage-bin diagnosis to serve as a catch-all for patients with otherwise unexplained chronic complaints. More than 15 years to 20 years ago, fibromyalgia may have been an entity underdiagnosed. However, recent trends may indicate that fibromyalgia diagnosis may at times be overly diagnosed.

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Table 2

Relatively common conditions which may mimic or co-exist with fibromyalgia

- Connective tissue conditions, such as:
  - ankylosing spondylitis,
  - lupus,
  - polymyalgia rheumatica.
- Endocrine conditions, such as:
  - hypothyroidism and
  - hyperparathyroidism.
- Malignancy and para-neoplastic syndrome
- Spectrum of affective and psychiatric disorders
- Hepatitis C
- Sarcoidosis
- Celiac sprue
- Sleep apnea
- Spinal stenosis

Management

Management of fibromyalgia can be difficult and can be an area of frustration for patients and practitioners alike. At the present, only modest benefits have been demonstrated with any treatment modalities. It often takes patience, time and understanding from practitioners to treat patients with fibromyalgia. A management plan for Judy should consist of education/exercise/medication.

Education

A cornerstone in the management of fibromyalgia is education of the patient. Often patient's with fibromyalgia can feel a sense of relief when the diagnosis has been discussed with them. They may have been told that there was nothing wrong with them, or that their pain is all in their head. After patients have been diagnosed with fibromyalgia, they can be reassured that they are not suffering from a deforming condition and that it is not life-threatening. They may find advice on scheduling day-to-day activities and exercise to be helpful. The practitioner can assist and support the patient to develop a self-management program in the long term.

Exercise

Exercises such as gentle progressive aerobic exercise (*i.e.,* walking, bicycling, aquatic exercises) can be helpful. This has been substantiated in a number of clinical trials.[4]

If exercises are done under supervision, the adherence rates are better; but, significant long-term drop-out rates are a problem. The primary care physician can indeed assist to keep up the long-term exercise adherence by encouraging and monitoring the patient's progress and participation.

Medication

Drug treatment is often not the only treatment in this disorder, but medications can be used to help in:

- pain relief,
- sleep disturbances or
- to relieve concomitant depression.

Tricyclic anti-depressants, such as amitriptyline, as well as cyclobenzaprine—which is very similar in chemical structure to amitriptyline—have been studied relatively extensively compared to other medications in this condition.[5] These drugs have some efficacy in decreasing pain and improving the overall well-being of the patient. However, longer-term efficacy over six months is not as good as short-term efficacy. As well, patients need to be given a very small starting dose, as they

often have medication intolerances. Other antidepressants, such as trazodone, have been used in this condition, although a controlled clinical trial is lacking. Selective serotonin reuptake inhibitors, such as fluoxetine, have had mixed results in clinical trials. One study did indicate a combination of fluoxetine and amitriptyline to be more helpful than either drug alone.[6] Serotonin-norepinephrine inhibitors, such as venlafaxine has also been reported to be helpful.

Use of non steroidal anti-inflammatory drugs has not been found to be helpful in fibromyalgia. Recently, newer medications reported to be helpful in randomized clinical trials include:

- Tramadol (a weak opioid agonist which also inhibits the reuptake of serotonin and norepinephrine at the level of the dorsal horn) as an analgesic medication[7]
- Pregabalin (a ligand which has analgesic, anxiolytic and anticonvulsant properties) used in higher dosages[8]

Other forms of treatment

Other than exercise, non-drug treatment include:

- cognitive-behavioral treatment,
- biofeedback,
- hypnotherapy/relaxation techniques and
- multi-disciplinary pain management programs.

Most studies involving these treatment modalities have been positive.

Prognosis

The natural history and prognosis of this condition appears to be worse in the subset of fibromyalgia patients studied and followed in tertiary referral academic centres, compared to fibromyalgia patients seen in the community setting. This may reflect a referral bias with more severe cases of fibromyalgia being seen in tertiary referral centers.[9]

Take-home message

1. Fibromyalgia classification diagnostic criteria was designed for clinical studies purposes and not for individual case diagnosis
2. Do not miss concurrent medical conditions which may co-exist with fibromyalgia
3. Consider other medical conditions which may mimic fibromyalgia
4. Management can be difficult and often needs to be individualized, as fibromyalgia is a clinical syndrome with the individual patient's own characteristics in each case

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