Fibromyalgia
Fact and Fiction

Paul Howard, MD  FACP FACP

9097 E. Desert Cove Ave Suite 100
Scottsdale, Arizona  85260
480-609-4200 fax: 480-609-4233
paul.howard@arthritishealth.net

Disclosure of Financial Relationships
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Fibromyalgia

Definition
History
Clinical Manifestations
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**Fibromyalgia**

**Definition**

Fibromyalgia is a complex medical condition characterized by:

- widespread musculoskeletal pain
- decreased pain threshold
- multiple “tender-points” in all four body quadrants
- often with fatigue, sleep and cognitive issues

**History**

Described in France and England in the 19th Century

Fibrositis was the term commonly used

Also
- Non-articular rheumatism
- Psychogenic rheumatism
- Muscular Rheumatism

Fibromyalgia termed in the 70’s and 80’s; defined in the 90’s

Wolfe et al Arth Rheum 1990 33:160-172

**Controversial**

Argued by some - no disease but a collection of symptoms in people at the extreme of the pain-distress spectrum.

Recognized as a legitimate entity by
- American College of Rheumatology
- National Institutes of Health
- American Medical Association
- World Health Organization

Accepted to be a one of a group of non inflammatory pain conditions affecting muscles and soft tissue
Fibromyalgia - Definition

Fibromyalgia is a complex medical condition characterized by:

• widespread musculoskeletal pain
• decreased pain threshold
• multiple “tender-points” in all four body quadrants
• often with fatigue, sleep and cognitive issues

Fibromyalgia - Controversial

Controversial Cause is not known!

Controversial Patients look well, normal exam, labs and x-rays

Controversial Psychological problems often overwhelm the clinical picture

Clinical Manifestations

Demographics: Women >>> Men 6:1
Age onset usually 30-55

Prevalence: 2 % pop Female 3.4%, Male 0.5%
> 7 % females at age 60-79

Onset: Nearly 50% begin soon after some physical or emotional trauma or a flu like illness

Fibromyalgia - Manifestations

Chronically widespread or generalized pain
Fatigue
Sleep
Cognitive disturbances
Mood abnormalities 30-50%
Dysesthiasias
Other complaints

Physical examination
Multiple tender areas of muscle and tendons
No inflammatory muscle or joint disease
? Control points: thumb, mid forearm, forehead

Laboratory tests: Unremarkable

Other Complaints

Ocular dryness
Multiple chemical sensitivity and "allergic" symptoms
Palpitations
Dyspnea
Vulvodynia
Dysmenorrhea
Sexual dysfunction
Weight fluctuations
Night sweats
Dysphagia
Dysgeusia
Orthostatic intolerance

= Fibromyalgianess
Tender points in fibromyalgia

Widespread musculoskeletal pain
Excess tenderness in at least 11 of 18 predefined sites
80% sensitive and 80% specific if both are used

4 kg/cm² force applied = pressure to whiten nail bed
Check control points vertex head or forehead, mid clavicle, thumb, mid forearm
Fibromyalgia - Diagnosis

New Preliminary Diagnostic Criteria of Fibromyalgia and Symptom Severity Measures

Multicenter study 829 FM patients and corresponding controls

Widespread Pain Index (WPI) 19 sites
Symptom Severity (SS) 0-12
Fatigue, Waking Unrefreshed, Cognitive Symptoms, Somatic Complaints
0 = none 1 = slight 2 = moderate 3 = severe

Not all FM patients meet 25% meet previous 1990 Criteria (25%)

Widespread Pain Index (WPI) ≥ 7 3-6
Symptom Severity (SS) ≥ 5 ≥ 9

88.1% concordance ACR 1990 Classification and 2010 Diagnostic Criteria

Wolfe F. et al Arth Care Res 2010 62:600-610

Differential Diagnosis

Systemic autoimmune disorders
Rheumatoid arthritis
SLE
Sjogren’s syndrome
Other inflammatory arthritis syndromes

Polymyalgia rheumatica ******

Inflammatory myopathies
polymyositis, dermatomyositis

Metabolic disorders
Hyper and hypothyroidism
Cushing’s and Addison’s disease
Hyperparathyroidism

PMR Fibromyalgia

<table>
<thead>
<tr>
<th>PMR</th>
<th>Fibromyalgia</th>
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</thead>
<tbody>
<tr>
<td>Widespread pain</td>
<td>Widespread pain</td>
</tr>
<tr>
<td>Acute onset</td>
<td>Insidious</td>
</tr>
<tr>
<td>&gt; 60 years old</td>
<td>any age</td>
</tr>
<tr>
<td>Severe AM stiffness</td>
<td>Stiffness all day</td>
</tr>
<tr>
<td>≥ tender ness</td>
<td>Widespread tenderness</td>
</tr>
<tr>
<td>Elevated ESR CRP</td>
<td>Normal ESR CRP</td>
</tr>
<tr>
<td>Responsive to Steroids</td>
<td>Not responsive to Steroids</td>
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</tbody>
</table>
Differential Diagnosis

Neurologic disorders
Myasthenia gravis
Multiple sclerosis
Entrapment neuropathies

Infections
EBV
CMV
Lyme disease
Hepatitis C

Fibromyalgia - Laboratories

- complete blood count: CMP
- erythrocyte sedimentation rate: CRP
- thyroid function tests: muscle enzymes

Autoantibody testing is often not needed

Psychological Evaluation and possible Neuropsychiatric Testing
Sleep Studies
If BP and HR abnormal: Autonomic nervous system testing - tilt table

Vitamin D Testing, Lyme Serologies, CMV serologies are often not helpful

Fibromyalgia and Coexisting Conditions

Autoimmune disorders
Sleep disorders: OSA, Restless leg syndrome
Depression: 30% at onset, 70% overall
Anxiety Disorders: 60%
Infections: Hepatitis C and Lyme disease
Chronic Fatigue Syndrome
Myofascial pain syndromes: TMJ, localized unexplained pain syndromes
Pathogenesis

All studies have shown muscles to be normal
- oxygen consumption, biopsies
- neuromuscular junction studies

Genetic
- Observational and biologic studies suggest familial clustering and heightened pain sensitivity

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 Perception
- Temporal and spatial summation of pain
- Decrease endogenous pain inhibition
- Functional neuroimaging - more extensive areas of stimulation


Pathogenesis

Sleep disturbance - polyphasic alpha sleep activity correlates with depression

Neurohumoral - hyperactivity of stress responses
- elevated am cortisol, growth hormone

Autonomic Dysfunction - orthostatic hypotension

The most plausible hypothesis suggests that, in genetically predisposed individuals, various stressors induce a heightened sense of pain and hypersensitivity to numerous stimuli

Pathogenesis - Stress

Large population survey - >10,000 subjects
- standard demographics 1.4.8% prevalence F>>M
- Physician diagnosed

FM increased patients reporting
- sexual assault/abuse
- physical assault/abuse

Not increased in
- life-threatening trauma,
- emotional abuse/neglect
- major life stress

Haviland et al. Psych Res 2010;177(3):335-351
Management

Education

* Not an infectious disease
* Not a malignant disorder - it is benign!
* Not covering up another condition

* This is real and is not in “your head”
* Reassure that help is available
* The patient has to be an active participant if management is to successful

Management

Multifaceted approach

Leads to

Less pain
Improved function
Greater sense of well-being

Management

Cardiovascular Training

Review of 34 articles conclude definite improvement

- pain
- global well being
- physical functioning

Weight Training

Inconclusive

Keys to success ** Daily ** yes DAILY !!!!!!! Pick a duration

Graduated add 1 minute / week

Goal 30 minutes per day =

210 minutes/week
Management

Other Exercise Programs - Helpful
Tai Chi
Yoga

Other Interventions - No long lasting benefits
Acupuncture
Massage
Multidisciplinary Centers -- No proven benefit

Management

Remove Toxins from environment
Alcohol
Tobacco
Stimulant drugs
Central Nervous System depressants

Social Toxins
Stress and psychological management
Counseling
Cognitive Behavioral Therapy
Intervention for improving sleep
Sleep Hygiene

Management

Medications

Sleep
  pm dosing of
  Tricyclics - Amitriptyline, desipramine, doxepin
  Muscle Relaxant - Cyclobenzaprine - Flexeril
  Neuroleptics - Pregabalin - Lyrica - Gabapentin - Neurontin

Exhaustion
  SNRI's in the am
  Cymbalta - Duloxetine
  Savella - Minapiramine
  Effexor - Venlafaxine
### Management

#### Analgesics
- **Acetaminophen**: caution re: < 4gm/day
- **Tramadol**: short acting 50mg up to q4h; long acting 100-300 mg / d

#### Narcotics
- Not recommended

#### NSAID's
- Steroids
- Carisoprodol - Soma
- Sodium Oxybate
- Growth Hormone

### Is FM a disabling disorder?

- **Longitudinal Study -10 year**
  - 11% became disabled
  - 71% reported little interference with work

- Fibromyalgia alone is not a disabling diagnosis
  - The presence of tender points alone do not result in objective functional impairment = disability

- Co morbid diagnoses - (usually psychiatric or cognitive) are the reasons for disability
  - Depression, anxiety, somatization

*Kennedy MJ et al Arth Rheum 1986 29:1522-1526*

### Management

#### What doesn't work
- Helplessness
- Disabled
- Pain will cause injury
- Catastrophizing

#### What works
- An increased sense of control over pain
- A belief that one is not disabled
- Pain is not a sign of damage
Help for Patients

Arthritis Foundation    Local chapter
www.arthritis.org

Up to Date             www.uptodate.com/patients

NIH                    www.nih.gov