Evaluation and Management of Fibromyalgia

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Overview of Fibromyalgia

- Common: 3.4% of women and 0.5% of men in the United States
- Accounts for 25% of all visits to rheumatologists in the United States
- A distinct clinical entity, as defined by the American College of Rheumatology (1990)
CURRENT PARADIGM

Fibromyalgia Tender Points

Anterior

Posterior
Definition of Fibromyalgia Syndrome

- Widespread Pain: Above and below the waist, on the left and right side of the body, and involving the axial skeleton
- Pain at 11 of 18 tender point sites on digital palpation
- Symptoms present for at least 3 months
Tender Points Problems

- The least objective way to measure tenderness, being highly correlated with psychological factors, especially distress

- Gives inappropriate impression about the nature of the problem in fibromyalgia (i.e., in the muscle)

- Accounts for over-representation of distressed, unfit, females

- Not a good measure – not normally distributed. Rarely improves in clinical trials
Pain and tenderness occur as a continuum in the population.

- 10% of the adult U.S. population has chronic widespread pain; 20% has chronic regional pain (Wolfe).
- Tenderness increases with age and female gender.
Current definition of fibromyalgia identifies top 2 - 4% of population.
FIBROMYALGIA
2 - 4% of population; defined by widespread pain and tenderness

EXPOSURE SYNDROMES e.g. Gulf War Illnesses, silicone breast implants, sick building syndrome

MULTIPLE CHEMICAL SENSITIVITY - symptoms in multiple organ systems in response to multiple substances

CHRONIC FATIGUE SYNDROME 1% of population; fatigue and 4/8 “minor criteria”

SOMATOFORM DISORDERS 4% of population; multiple unexplained symptoms - no organic findings
Symptoms and Syndromes Related to Fibromyalgia

- Tension/migraine headache
- Affective disorders
- Temporomandibular joint syndrome
- Constitutional
  - Weight fluctuations
  - Night sweats
  - Weakness
  - Sleep disturbances
- Cognitive difficulties
- ENT complaints (sicca sx., vasomotor rhinitis, accommodation problems)
- Vestibular complaints
- Multiple chemical sensitivity, “allergic” symptoms
- Esophageal dysmotility
- Neurally mediated hypotension, mitral valve prolapse
- Non-cardiac chest pain, dyspnea due to respiratory mm. dysfunction
- Interstitial cystitis, female urethral syndrome, vulvar vestibulitis, vulvodynia
- Irritable bowel syndrome
- Nondermatomal paresthesias
Mechanisms of Pain

**Acute pain**
Peripheral nociceptive input from thermal, chemical or mechanical nociceptors

**Chronic pain**
Central factors typically predominate

Stimulus

Spinal cord

Brain

from Robert Bennett, MD
Chronic Pain – Defined by Mechanisms

- **Peripheral (nociceptive)**
  - Primarily due to inflammation or damage in periphery
  - NSAID, opioid responsive
  - Behavioral factors minor
  - Examples
    - OA
    - Acute pain models (e.g. third molar, post-surgery)
    - RA
    - Cancer pain

- **Central (non-nociceptive)**
  - Primarily due to a central disturbance in pain processing
  - Tricyclic responsive
  - Behavioral factors more prominent
  - Examples
    - Fibromyalgia
    - Irritable bowel syndrome
    - Tension and migraine headache
    - Interstitial cystitis / vulvodynia, non-cardiac chest pain / etc.

- **Mixed**
- **Neuropathic**
Sensory processing in fibromyalgia

A problem with the “volume control”

- Patients display a normal “detection threshold”, but an increased sensitivity, to noxious levels of not only pressure, but also other stimuli, e.g. heat, noise, electrical stimulation.

- The general increase in sensory sensitivity could theoretically be due to psychological or physiological factors including:
  - “expectancy” or “hypervigilence”
  - central changes in nociceptive processing (e.g., sensitization or reduced descending pain inhibition).
History

- Diffuse, Widespread Pain
- Fatigue
- Nonrestorative sleep
- Associated sxss (IBS, HA, dyspareunia, etc.)
- Look for evidence of Obstructive Sleep Apnea
- Risk factors for Hepatitis C
Physical Exam

- Often unremarkable, except for tenderness
Laboratory Testing

- WSR
- TSH
- Hepatitis C antibodies, if risk factors present
- Avoid “Diagnostic Waffling”
Differential Diagnosis

- **COMMON**
  - Hepatitis C
  - PMR
  - Sleep Apnea/PLMS
  - Hypothyroidism
  - Depression

- **LESS COMMON**
  - RA
  - SLE
  - Sjogren Syndrome
  - Addison disease
  - Cushing syndrome
  - Hyperparathyroidism
Nonpharmacologic Management

- “Front-Load” time with patients
- Education: This is a non-destructive condition
- Empower the patient: This is their condition to manage with your help
- www.med.umich.edu/painresearch/education/fmoverview.htm
- www.arthritis.org
Management of Fibromyalgia

- Regular aerobic exercise (aquatherapy is good)
- Proper sleep hygiene; restore normal sleep patterns
- Use medications as an adjunct to therapy, not as the sole treatment
- Avoid diagnostic waffling!
- Set reasonable goals with the patient
- Cognitive Behavioral Therapy can be valuable
Pharmacologic Therapy

- There are no drugs indicated for the treatment of fibromyalgia
Tricyclic Antidepressants

- Cornerstone of drug therapy for fibromyalgia
- Amytriptylene (up to 75 mg HS) and cyclobenzeprine (up to 40 mg daily) are the best studied agents
- Start low-dose to maximize compliance
Other Antidepressants

- Trazodone 50-150 mg HS
- SSRIs not very effective
- Mixed adrenergic/dopaminergic agents such as venlafaxine or nefazodone may be more efficacious
Analgesics

- More effective in peripheral pain resulting from activation of nociceptors
- Limited efficacy in fibromyalgia, but widely used
Analgesics Affect Different Parts of the Pain Pathway

- Opioids
- $\alpha_2$-Agonists
- Centrally acting analgesics
- Anti-inflammatory agents (COX-2–specific inhibitors, nonspecific NSAIDs)

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- Pain
- Trauma
- Descending modulation
- Dorsal horn
- Dorsal root ganglion
- Spinothalamic tract
- Ascending input
- Peripheral nerve
- Peripheral nociceptors
Other Analgesics

- Opioids
- Tramadol
Hypnotics

- Benzodiazepines
- Zolpidem
Other agents that may be useful

- Gabapentin - titrate dose based on tolerability (may need up to 1200 mg tid-qid for efficacy in fibromyalgia)

- Dextromethorphan (150-200 mg/day in studies; caution when using with SSRIs)
Summary: What is Fibromyalgia?

- A discrete disorder

- The end of a continuum (everyone has a little FM sometimes; some people have a lot all the time)

- The prototypical chronic central pain state, that can help us understand central mechanisms that play a role in pain transmission in both pure central pain syndromes (i.e. FM), as well as a subset of individuals with “mechanical” and “inflammatory” pain
Fibromyalgia is a real disorder

Patients with fibromyalgia do suffer

Behavioral therapy is vital for successful management

Regular aerobic exercise is crucial

Medication is an adjunct to therapy