New Horizons in Fibromyalgia

Bringing Hope Through Better Patient Care
Disclosure

This program was developed by the University of Calgary and University of Sherbrooke through an educational grant from Pfizer Canada Inc.

Previous Funding: grants/honoraria and clinical trials with: Valeant, Purdue, Boehringer, Biogen, Pfizer, Serono, Bayer.
Learning Objectives

Following this course, participants will be able to:

– Give the prevalence and etiologic theories for fibromyalgia
– List the diagnostic criteria, differential diagnosis and investigations for fibromyalgia
– Explain the diagnosis to patients with fibromyalgia in a positive, hopeful and respectful manner
– Provide a treatment strategy for patients diagnosed with fibromyalgia
– Obtain resources to assist patients in the management of their fibromyalgia
Clinical Presentation

- Patty is a 32-year-old woman in your practice.
  - History:
    - Under your care for 10 years
    - Unremarkable past history
    - Slipped on ice 4 months ago and has had progressive generalized pain and fatigue
    - Saw a locum 2 weeks ago who ran a battery of tests for multiple symptoms of generalized pain, fatigue and sleep problems
Prevalence of Fibromyalgia

- Fibromyalgia occurs in all ages, both sexes and all cultures, but occurs more frequently in:
  - Women
  - Patients between the ages of 35 – 60 years

- In Canada:
  - Fibromyalgia affects an estimated 4.9% of adult women and 1.6% of adult men
  - Female to male ratio of approximately 3:1

Core Clinical Features of Fibromyalgia

Widespread Pain
- Chronic, widespread pain is the defining feature of Fibromyalgia
- Patient descriptors of pain include: aching, exhausting, nagging, and hurting
- Presence of tender points

Neurocognitive Impairment ("FibroFog")
- Characterized by confusion, slowed processing of information and reaction time, difficulty in word retrieval or speaking, concentration, attention, short-term memory consolidation, disorientation

Sleep Disturbance
- Characterized by nonrestorative sleep and increased awakenings
- Abnormalities in the continuity of sleep and sleep architecture

Fatigue
- Patients describe it as physically or emotionally draining

Stiffness
- Stiffness in the morning is a common characteristic of Fibromyalgia

References:
Symptoms of Fibromyalgia

Pain, fatigue, and sleep disturbance are present in at least 86% of patients*

* US data

Mood Disorders in Fibromyalgia

- At time of diagnosis, approximately 20-40% of individuals with fibromyalgia have an identifiable current mood disorder (e.g., depression or anxiety)
  - Lifetime prevalence of depression: 74%
  - Lifetime prevalence of anxiety disorder: 60%
  - In many cases, depression or anxiety may be the result of chronic pain

Stressors

Stressors that may trigger fibromyalgia (supported by case control studies)

- Peripheral pain syndromes
- Physical trauma
- Infections (e.g., parvovirus, EBV, Lyme disease, Q fever)
- Psychological stress/distress, including sleep disturbances

Any external noxious stimuli may trigger fibromyalgia, but it is not a prerequisite for the development of the condition. In many cases, the onset of fibromyalgia is gradual, with no identifiable trigger.
Diagnosing Fibromyalgia: Overview

- Patient history of fibromyalgia or related conditions
  - Personal history
  - Family history

- Physical examination
  - Established diagnostic criteria
  - Tender point evaluation

- Differential diagnosis
  - Clinical/laboratory evaluation to exclude other conditions such as:
    - Osteoarthritis, rheumatoid arthritis, PMR, hypothyroidism, lupus, and Sjögren’s syndrome

Note: Extensive lab evaluation is usually not necessary to rule out fibromyalgia. In some cases, a TSH may be called for. PMR is usually not a problem as it seldom occurs under the age of 60, whereas the onset of fibromyalgia after 65 is rare.
Assessment of Fibromyalgia: American College of Rheumatology (ACR) Classification Criteria

- History of widespread pain that has been present for at least 3 months (ALL of the following should be present):
  - Pain on both sides of the body
  - Pain above and below the waist
  - Axial skeletal pain
  - Pain in at least 11 of 18 tender point sites on digital palpation

ACR criteria are both sensitive (88.4%) and specific (81.1%)

Illustration of Tender Points

- **Occiput (2)** - at the suboccipital muscle insertions
- **Low cervical (2)** - at the anterior aspects of the intertransverse spaces at C5-C7
- **Trapezius (2)** - at the midpoint of the upper border
- **Supraspinatus (2)** - at origins, above the scapula spine near the medial border
- **Second rib (2)** - upper lateral to the second costochondral junction
- **Lateral epicondyle (2)** - 2 cm distal to the epicondyles
- **Gluteal (2)** - in upper outer quadrants of buttocks in anterior fold of muscle
- **Greater trochanter (2)** - posterior to the trochanteric prominence
- **Knee (2)** - at the medial fat pad proximal to the joint line

Performing a Tender Point Exam

- Digital palpation with an approximate force of 4 kg
  - Estimated pressure needed to turn the examiner’s thumbnail white upon depressing
- For a “positive” tender point, the subject must state that the palpation was painful
- Use of these criteria yielded an 88.4% sensitivity (measure of correctly diagnosed patients) and an 81.1% specificity (statistical probability of an accurate negative diagnosis) for diagnosing fibromyalgia
- Controversies regarding tender point evaluation
  - Subjective
  - May not be necessary for diagnostic studies
  - What about fewer than 11 of 18 tender points?

Tender Points vs. Trigger Points

**Tender points:**
- Painful and tender areas occurring in muscle, muscle-tendon junction, bursa, or fat pad
- Characteristic of fibromyalgia when they occur in a widespread manner

**Trigger points:**
- Areas of muscle that are painful to palpation
- Characterized by presence of localized tender areas and generation of a referral pattern of pain
- Typically occur in a more restricted regional pattern
- Indicative of myofascial pain syndrome

Pathogenesis of Fibromyalgia: Overview

- Pathogenesis of fibromyalgia is unknown
- Central sensitization is currently the leading theory
  - Mechanisms of central sensitization

Excitatory mechanisms

Inhibitory mechanisms

Pathogenesis of Fibromyalgia

- Increased levels of substance P (> 3 x) in patients with fibromyalgia
- fMRI studies show a marked regional increase in cerebral blood flow following a painful stimulus in patients with FM compared to controls not suffering FM
- Deficit in the endogenous pain inhibitory systems noted in fibromyalgia patients

Should you make a definite diagnosis of fibromyalgia?

Or is the label of fibromyalgia more harmful to the patient?
Diagnosis of fibromyalgia improves health satisfaction

- White et al conducted a prospective, community comparison of fibromyalgia patients in Canada that revealed significantly improved scores 36 months post-diagnosis
- Patients self-reported health satisfaction on a 5-point Likert scale

*Statistically significant versus baseline (Confidence Interval -1.2, -0.4).

Fate of Patients with Fibromyalgia

- Reassure patients that fibromyalgia need not be progressive and that symptoms remain stable over time

In a follow-up study (N=29), Kennedy and Felson found that all surviving patients still had fibromyalgia 10 years later:

However, 66% indicated some improvement over the 10 years

- 47% no longer fulfilled Smythe or ACR criteria for fibromyalgia
- Remission identified in 24.2% of assessed patients

Successful management requires an upbeat, optimistic approach and EARLY initiation of effective, individualized therapy

- An Australian study of patients provided with a simple treatment regimen found that 2 years after diagnosis:
  - Moderate to severe pain or stiffness
  - Significant sleeping difficulties
  - Notable fatigue
  - Poor global rating of FMS symptoms

Clinical presentation
Some tips on providing the diagnosis

- Be specific about the diagnosis
- Be positive about the diagnosis
- Promote and encourage patient self-efficacy around the disease but…
- Set realistic expectations
- Emphasize no cure but improved control of symptoms usually possible
- Active treatments generally superior to passive treatments
**Management of Fibromyalgia: Recommended Treatment Approach**

- Multidisciplinary therapy individualized to patients’ symptoms and presentation is recommended
- A combination of non-pharmacological and pharmacological therapies may benefit most patients

### Non-pharmacological

- Aerobic exercise
- Cognitive behavioral therapy
- Patient education
- Strength training
- Acupuncture*
- Biofeedback*
- Balneotherapy*

*Limited evidence for efficacy exists

**Balneotherapy: treatment of disease or health conditions by bathing**

### Pharmacological

- Non-narcotic analgesics
- Analgesic antiepileptics
- Antidepressants
  - TCAs
  - SSRIs
  - SNRIs
- Muscle relaxants
- Other

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Non-pharmacological Treatments With Demonstrated Efficacy Currently in Use

- **Cognitive-behavioral therapy**
  - Positive effects on coping with and control over pain
    - Not proven to improve pain
  - Proven to improve physical function
  - Should be done by a trained professional

- **Aerobic and strengthening exercises**
  - Reduce pain, increase self-efficacy, improve QOL, and reduce depression
  - Aerobic exercise should be of low-to-moderate intensity, two to five times/week

- **Patient education**
  - Conflicting evidence but some studies have shown improvements in pain, sleep, fatigue, and quality of life


## Pharmacological Therapies for Fibromyalgia

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<th>Treatment</th>
<th>Level of Evidence</th>
<th>Comments</th>
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| TCAs      | High              | - Amitriptyline most widely studied  
- Short-term improvements in pain, fatigue, sleep and overall well-being  
- Benefits usually seen 2-4 weeks after initiation of therapy  
- Significant side effects, even at low doses |
| SSRIs     | Moderate          | - Inconsistent data, particularly vs. placebo  
- **Fluoxetine**: improvements in sleep, pain, fatigue and mood at higher doses  
- **Paroxetine**: improvements in pain, sleep and fatigue, but less effective than amitriptyline  
- **Citalopram**: improvements in mood at higher doses; appears to be less effective than fluoxetine and paroxetine |
| SNRIs     | High (for duloxetine) | - **Duloxetine**: improvements in pain, tender points, stiffness and QOL; approved for fibromyalgia treatment in the US  
- **Venlafaxine**: open label studies show improvements in pain and mood at doses > 150 mg |

TCA: tricyclic antidepressants; SSRIs: selective serotonin reuptake inhibitors; SNRIs: serotonin-norepinephrine reuptake inhibitors

Pharmacological Therapies for Fibromyalgia (continued)

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| Analgesics/Antiepileptics          | High              | **Pregabalin:**  
|                                    |                   | – Improvements in pain, sleep, fatigue and global measures of change, particularly at dose of 450 mg/day  
|                                    |                   | – Approved for treatment of fibromyalgia in Canada and US  
| Gabapentin                         |                   | **Gabapentin:**  
|                                    |                   | – Improvements noted in pain, sleep and FIQ scores, but not number of tender points  
| Non-narcotic analgesics            | High              | **Tramadol:**  
|                                    |                   | – Improvements in pain and QOL  
|                                    |                   | – Caution in patients already taking SSRIs or SNRIs due to potential for serotonin syndrome  
| Muscle relaxants                   | Moderate          | **Cyclobenzaprine:**  
|                                    |                   | – Improvements in pain and sleep; similar outcomes to amitriptyline  

Corticosteroids, strong opioids and NSAIDs have shown no benefit in patients with fibromyalgia and are **NOT** recommended.

Efficacy in the Management of Fibromyalgia

- For information regarding active and completed clinical trials of non-pharmacological and pharmacological therapies seeking to demonstrate efficacy in the management of fibromyalgia:
  - Visit: www.clinicaltrials.gov, Key Word Search: FIBROMYALGIA

- For the latest in scientific literature on the management of fibromyalgia:
    • Key Word Search: MANAGEMENT OF FIBROMYALGIA

- For information regarding approved drugs and their labeling:
  - Visit: http://www.emea.europa.eu/
  - Visit: http://www.accessdata.fda.gov/scripts/cder/drugsatfda/
Other Useful Websites/Patient Information


- Patient Workbooks/Materials:
A Word About Disability...

- Many insurers will not accept this diagnosis – the key is to focus on functional limitations when completing assessments.
- Consistent, organized, clear documentation over time is powerful even in the absence of hard medical data.
- Document:
  - Objective clinical observations of appearance, behaviour, speech, self-care, grooming
  - Impairments of functioning, work, daily activities, socialization
  - Medications prescribed/tries
  - Pain levels, physiological distress
  - Use additional medical information from consultants
- Avoid advocacy statements, personal statements and non-medical opinions.
- Emphasize the presence of impairment of functioning over time.
  - For more information see Assessing Occupational Disability by Dr. I Esche, University of Calgary at: http://podcast.med.ucalgary.ca/groups/cfs/blog/
Summary

- Fibromyalgia occurs in all ages, both sexes and all cultures, but occurs more frequently in women of middle age.
- Core defining features: chronic widespread pain, sleep disturbance, fatigue, neurocognitive impairment and stiffness.
- Establishing the diagnosis of fibromyalgia is an essential component of successful management.
- Fibromyalgia need not be progressive and can be managed successfully through early, individualized therapy and an optimistic approach by the physician.
- Treatment includes non-pharmacological and pharmacological strategies.
Local Resources

- Arthritis Society (Fibromyalgia Section)
Questions??????

Thank you!