CLINICAL CASES
Case: Ms. FM
Case: Ms. FM

- Ms. FM is a 37-year-old school teacher
- Under your care for 10 years
- Unremarkable past history
- Was in minor car accident 4 months ago
- Has had progressive generalized pain and fatigue since accident
Discussion Questions

WHAT ARE SOME POSSIBLE CAUSES OF HER PAIN?
WHAT ELSE WOULD YOU LIKE TO KNOW
Ms. FM: Symptoms

• Pain:
  – Felt all over body, in muscles and joint
  – Worsens with exercise
  – No relief with acetaminophen

• Fatigue:
  – Complains of feeling tired most days
  – Says she has trouble getting to sleep sometimes

• Mood:
  – Flat affect
Discussion Question

WHAT WOULD YOU CONSIDER WHEN EVALUATING HER SYMPTOMS?
Ms. FM: Physical Exam

- Blood pressure: 130/82 mmHg
- BMI: 24.9 kg/m²
- Cardiovascular exam normal
- Lungs clear
- No joint swelling or erythema
- Normal range of motion in all joints
- No skin rashes
- 8/18 tender points positive

BMI = body mass index
Discussion Question

WHAT WOULD BE YOUR DIAGNOSIS?
Ms. FM

• Clinical exam confirms diagnosis of fibromyalgia
Discussion Questions

WHAT WOULD YOU TELL MS. FM?
WHAT WOULD BE YOUR TREATMENT PLAN?
Ms. FM: Treatment Plan

- First-line pharmacotherapy
- Referral for cognitive behavioral therapy
- Counseling regarding improved sleep hygiene and healthy diet
- Exercise may be added gradually after pain has been relieved
Discussion Questions

WHAT WOULD YOU TELL HER?
Case: Mrs. CWP
Case: Mrs. CWP

- 55-year-old housewife and mother of 2
- 20-year history of aching in neck, shoulders and knees
- Also complains of:
  - Fatigue
  - Trouble getting to sleep
  - Difficulty concentration
  - Intermittent bouts of depression
- Current medications: muscle relaxant and NSAID, as needed
- Has been prescribed TCAs and SSRIs in past for her depression

NSAID = non-steroidal anti-inflammatory drug; SSRI = selective serotonin reuptake inhibitor; TCA = tricyclic antidepressant
Discussion Questions

WHAT ARE SOME POSSIBLE CAUSES OF HER PAIN?

WHAT ELSE WOULD YOU LIKE TO KNOW?
Mrs. CWP: Physical Examination and Review of Systems

- In past year:
  - Gained 2 kg
  - Less frequent menstrual periods (q6w)
- Blood pressure: 130/86 mmHg
- Physical exam normal
- Pain experienced at 16 of 18 tender points
Discussion Question

WOULD YOU CONDUCT ANY IMAGING STUDIES OR LABORATORY TESTS?
Mrs. CWP: Laboratory Results

- Mammogram: normal
- CBC: within normal limits
- Liver function tests: within normal limits
- FSH, LH, estradiol, total estrogen: perimenopause profile
- TSH, free T4: within normal limits
- CPK: within normal limits
- ESR: within normal limits
- Blood calcium: within normal limits
- Vitamin D: within normal limits

CBC = complete blood count; CPK = creatine phosphokinase; ESR = erythrocyte sedimentation rate; FSH = follicle-stimulating hormone; LH = luteinizing hormone; TSH = thyroid-stimulating hormone
Discussion Question

WHAT WOULD BE YOUR DIAGNOSIS?
Mrs. CWP: Diagnosis

- Fibromyalgia
- Depression
- Perimenopause
- Borderline hypertension
Discussion Questions

WHAT WOULD YOU TELL MRS. CWP?
WHAT WOULD BE YOUR TREATMENT PLAN?
Mrs. CWP: Treatment Plan

- Fibromyalgia and depression:
  - NSAID discontinued
  - $\alpha_2\delta$ ligand or SNRI initiated

- Perimenopause:
  - Low-dose birth control pills added for menopause symptoms

- Borderline hypertension:
  - Diet and weight loss recommendations
  - Follow-up and monitoring
  - Exercise may be started gradually after pain has been relieved

NSAID = non-steroidal anti-inflammatory drug; SNRI = serotonin norepinephrine reuptake inhibitor
Case: Mrs. MP
Mrs. MP: Case Presentation

• 53-year-old female teacher who was injured 3 months ago in an automobile accident
  – She was rear ended by a teenage driver who was driving while intoxicated
  – She suffered an immediate whip lash injury with marked pain and stiffness in the neck and right arm
• X-ray of C-spine showed C5–6 disc space narrowing
• Menopausal in the last year
• Migraine headaches controlled with sumatriptan 100 mg prn
Discussion Questions

WHAT ELSE WOULD YOU LIKE TO KNOW?
Mrs. MP: Patient History

- Patient was initially treated by her internist with naproxen and cyclobenzaprine for pain and muscle spasm, and referred for physical therapy.
- She initially had localized pain in the neck, and over the last month, she developed overwhelming generalized pain and fatigue.
- She has been missing days from work, is not sleeping well, and is becoming depressed.
- Review of physical therapy notes confirm an initial whiplash injury, and then the development of generalized myofascial pain.
**Mrs. MP: Physical Exam**

<table>
<thead>
<tr>
<th>Blood pressure: 102/60 mmHg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight: 72 hg</td>
</tr>
<tr>
<td>Height: 168 cm</td>
</tr>
<tr>
<td>Pain VAS: 8/10</td>
</tr>
<tr>
<td>General impression:</td>
</tr>
<tr>
<td>- Anxious woman</td>
</tr>
<tr>
<td>- Uncomfortable with generalized pain</td>
</tr>
<tr>
<td>- Physically deconditioned</td>
</tr>
<tr>
<td>- Poor posture with anterior head position</td>
</tr>
<tr>
<td>- Bilateral temporomandibular joint disorder</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>18/18 tender points; 3/4 in intensity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tight trapezius muscles</td>
</tr>
<tr>
<td>Decreased range of motion in C-spine</td>
</tr>
<tr>
<td>Hands and wrists:</td>
</tr>
<tr>
<td>- Normal range of motion</td>
</tr>
<tr>
<td>- No swelling</td>
</tr>
<tr>
<td>- Normal grip strength</td>
</tr>
<tr>
<td>Marked myofascial pain in the right upper arm</td>
</tr>
<tr>
<td>Diffuse myofascial pain in the paraspinal muscles</td>
</tr>
</tbody>
</table>
Discussion Question

WOULD YOU CONDUCT ANY IMAGING STUDIES OR LABORATORY TESTS?
Mrs. MP: Imaging and Test Results

- Cervical spine MRI: degenerative C5–6 disc disease with moderate disc bulge and neural foraminal impingement of spinal nerve C6

- All labs (CBC, CMP, sedimentation rate, CRP, T4, TSH, magnesium, iron, TIBC, vitamin D, B12) were normal
Mrs. MP: Key Points to Consider

- Iron levels are normal
- No abnormality shown with evoked potential and EMG
- Opinion of physical medicine and osteopath
- Daily use of anti-inflammatory with no result
- Aggravation of the fatigue
WHAT WOULD BE YOUR DIAGNOSIS?
Mrs. MP: Potential Diagnoses

- Fibromyalgia
- Myofascial pain syndrome
- Cervical disc disease
- Migraine headaches
- Sleep disturbance
- Reactive depression
Discussion Questions

WHAT WOULD BE YOUR TREATMENT PLAN?
Mrs. MP: Treatment

• Patient responded to a month medical leave for aggressive physical therapy with a therapist skilled in treating fibromyalgia, along with temporomandibular joint splints and warm water aquatic exercises.

• She was treated with increasing doses of an α2δ ligand, a sleeping pill and a muscle relaxant, along with tramadol/acetaminophen for breakthrough pain.

• She was able to return to work an orthopedic chair with adjustable arms.
Case: Mrs. LBP
Mrs. LBP: Case Presentation

• 56-year-old, married, teacher at the college
• History of low back pain over the last 3 years
  – Pain intensity is 5–6 on VAS
  – She describes her pain as tightness in her lower back region with some radiation into the left buttock area
  – Pain is greater when she is sitting, less when moving
• She has not been working during last year because of pain; she stays at home
• Poor mood, poor appetite, poor sleep
• She says, “Nobody can help me. I probably have a dangerous disease of the spine.”

VAS = visual analog scale
WHAT ELSE WOULD YOU LIKE TO KNOW?
Mrs. LBP: Previous Treatments

**Pharmacotherapy**
- NSAIDs
- Acetaminophen
- Lidocaine plasters
- Gabapentin
- Pregabalin

**Non-pharmacological Therapy**
- Massage
- Manual therapy
- Acupuncture
- Physiotherapy

Although treatments were effective initially (3 years ago), they no longer work to relieve Mrs. LBP's pain.

NSAID = non-steroidal anti-inflammatory drug
Discussion Question

WHAT WOULD YOU LOOK FOR ON THE PHYSICAL EXAM?
WOULD YOU ORDER ANY IMAGING OR LABORATORY TESTS?
Mrs. LBP: Physical Examination and Imaging Results

- No sensory deficit
- No weakness
- Reflexes are normal
- Negative straight leg raise test
- MRI: small protrusions at L4–L5, L5–S1

MRI = magnetic resonance imaging
WHAT TREATMENT(S) WOULD YOU RECOMMEND?
Mrs. LBP: Treatment Plan

- Amitriptyline 12.5 mg at bedtime for 2 weeks, then increasing to 25 mg at bedtime
- Light exercises and stretching every day
- Walking 45 min every other day
- Social activity (cinema, theatre, meeting friends)
- It was explained to Mrs. LBP’s husband that his support is very important (walking together, social activity)
- Cognitive behavioral therapy
Mrs. LBP: After 1 Month

• She returns with a little bit less pain, but is still not satisfied with the result
• Cognitive behavioral therapy was continued
• Walking every day 45–60 minutes
• Swimming twice a week
• Amitriptyline 25 mg at bedtime
Mrs. LBP: After 2 Months

• Pain has improved, but she still “feels the pain”
• Cognitive behavioral therapy was continued
• Meditation and relaxation sessions were advised
• Return to work was advised
Mrs. LBP: After 6 Months

- Mrs. LBP has complete pain relief
- She has returned to full time work
- She has become more socially active (found a new, interesting job)
- She was satisfied with the treatment and realized there was no dangerous disease in her spine
Why did this treatment approach help Mrs. LBP?

- Amitriptyline
- Light exercises and stretching
- Cognitive behavioral therapy
- Walking 45–60 minutes every day, swimming
- Social activity (cinema, theatre, meet friends)
- Support from husband
- Return to work in a new, more interesting job
- Meditation and relaxation

All of these measures may close the “pain gate” and inhibit pain.
Case Template
Patient Profile

- Gender: Male/female
- Age: # years
- Occupation: Enter occupation
- Current symptoms: Describe current symptoms
# Medical History

## Comorbidities
- List comorbidities

## Measurements
- BMI: # kg/m²
- BP: #/# mmHg
- *List other notable results of physical examination and laboratory tests*

## Social and Work History
- Describe any relevant social and/or work history

## Current medications
- List current medications

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BMI = body mass index; BP = blood pressure
Discussion Questions

Based on the case presentation, what would you consider in your differential diagnosis?

What further history would you like to know?

What tests or examinations would you conduct?
Pain History

- **Duration**: *When did pain begin?*
- **Frequency**: *How frequent is pain?*
- **Quality**: *List descriptors of pain*
- **Intensity**: *Using VAS or other tool*
- **Distribution and location of pain**: *Where does it hurt?*
- **Extent of interference with daily activities**: *How does pain affect function?*
Clinical Examination

- List results of clinical examination
Results of Further Tests and Examinations

• *List test results, if applicable*
Discussion Question

WHAT WOULD BE YOUR DIAGNOSIS FOR THIS PATIENT?
• *Describe diagnosis*
WHAT TREATMENT STRATEGY WOULD YOU RECOMMEND?
Treatment Plan

• List both pharmacological and non-pharmacological components of management strategy
Follow-up and Response to Treatment(s)

- *Describe pain, function, adverse effects, etc., at next visit*
Case Template: Discussion Question

- Would you make any changes to therapy or conduct further investigations?
Other Investigations

• List results of further investigations, if applicable
Changes to Treatment

- Outline changes to therapy, if applicable
Conclusion

- Describe pain, function, adverse effects, etc., at next visit
What If Scenarios

- How would your diagnosis/treatment strategy change if...
  - List what if scenarios