**NOTE TO FACULTY: No Oral Presentation**

**15 min for interaction and 12 min for Feedback**

Tufts 3rd Year Clinical Skills Interclerkship

Introduction to the Case for all the students

*Case #39: Foot Pain*

Robert Mitchell, a 70-year-old male, presents with pain in his feet.

Chris Partridge is a pharmacy student rotating at your office who will be joining you for the patient encounter. Chris has reviewed the chart and is available to answer questions as needed during the interview.

**Vital signs today are: Medication List:**

BP: 138/86 Metformin 1,000 mg twice daily

Hr: 72 Glipizide 5 mg once daily, every morning

R: 16/min Atorvastatin 20 mg daily

T: 98.2 °F (36.8 °C) Aspirin 81 mg daily

Weight: 90 kg Tylenol 500 mg as needed for foot pain

 **Most Recent BMP:**

137 110 22

 196

4.5 22 1.6

# YOUR TASKS: You will have 13 minutes with this patient to:

* Huddle with the pharmacy student for about 1 minute about the case before meeting the patient
* Obtain a focused history with a focus on history of present illness.
* Perform a relevant exam of the patient’s feet.
* Discuss your initial diagnostic impressions and recommended treatment.
* Collaborate with the pharmacy student on a treatment plan while focusing on pain management.

**CASE #39: Foot Pain**

**SUMMARY OF CASE FOR STANDARDIZED PATIENT:**

You are Robert Mitchell, a retired 70-year-old insurance salesman. You are coming in upon request of your wife for foot pain. You do not like to complain about your pain, but do notice it at least once every day and describe it as burning and “like walking on pins and needles” in both feet. You rate the pain as 5 out of 10 at its worst, but say it is nothing compared to injuries you experienced and witnessed as a soldier in Vietnam. You think this pain has been present for about 3 years, more though in the past few months. This first began in your toes and has progressed up into your feet through the years. You notice it most at night. It can last minutes to hours. Sometimes you feel as if your feet have “fallen asleep.” You do not notice the pain in your hands or arms. Your wife wants you to mention that over the summer you walked outside on the hot pavement barefoot to the mailbox and when you returned you had blisters on your feet. The blisters were not painful but took a long time to heal. You trip on rugs and furniture once in a while but blame it on your wife for having too much stuff. You do admit to putting on a few pounds in the past 10 years since you retired, as you are not doing as much activity on a daily basis. You have no change in vision or any other symptoms. You have no significant swelling of your feet. No recent injuries to your feet. Your wife takes good care of your feet and cuts your nails regularly. Neither you nor she has noticed any sores on your feet. You have tried taking Tylenol but do not notice much improvement. You have some friends who take Percocet for chronic pain and wonder if this could help.

**PAST MEDICAL HISTORY:** You say you are healthy. You are aware that you have diabetes and high cholesterol. You mention that your doctor told you your “sugars were high” about 7 years ago and that you were started on medications at that time. Your last hemoglobin A1C (pronounced “A-one-C” was checked about a year ago and was 8.2% (a normal A1C is less than 6%), thus your diabetes is uncontrolled. You have not had it repeated since then as you were in Florida over the winter. You do not measure your blood sugars at home. You fractured your leg and pelvis while serving in the Vietnam War. You had no residual pain or disability after the injury. In general, you have good knowledge of your current conditions.

**MEDICATIONS (**You do not have any problems remembering your meds**)**:

* Metformin 1,000mg twice daily
* Glipizide 5mg daily, in the morning
* Atorvastatin 20mg daily
* Aspirin 81 mg daily
* Tylenol as needed for foot pain.

**ALLERGIES**: No Known Medication Allergies

**SOCIAL HISTORY:** You live with your wife, also retired, in a two-story home in Lynn. You have two grown sons in their 30s who live in the Boston area, no grandchildren yet. You have been retired for almost 10 years and have lived a mostly sedentary life since. You and your wife desperately want grandkids. You watch a lot of TV and like to go for walks with your wife 1-2x per week. You eat a pretty well-balanced diet with meat, potatoes, and vegetables, though you do admit to having a sweet tooth and sneak ice cream most evenings. Your wife cooks all your meals as you don’t know how to cook. You wonder if you should have brought your wife today. Your relationship with your wife is fine but you don’t talk much. You drink 1-2 beers every week. You smoked cigarettes during the war but quit after coming home in the 1970s. You were in Vietnam and experienced extreme trauma during a firefight, but you come from a generation where “we don’t talk about those things” and, if further questioned, do not want to talk about it now. No illicit drugs.

**FAMILY HISTORY:** Father died of heart disease in his 80s; Mother had diabetes and died in her 70s.

**PHYSICAL EXAMINATION:** You move slowly, with a steady gait. You have palpable pulses throughout the lower

extremities and reflexes are intact. You have adequate strength. You have an intact response to light touch, but symmetrically diminished response to pinprick sensation and vibration, such that these latter two sensations are absent below the ankles. Specifically, you are not able to perceive the vibration of a tuning fork or the poke of a monofilament throughout both feet. There are no sensory abnormalities in your upper extremities.

**PATIENT BEHAVIOR, AFFECT, MANNERISMS:** Patient walks into the exam room with shoes and socks already off and sits upright, without apparent discomfort. He answers questions **concisely** while providing a lot of information **as quickly as possible** because this case will be a challenge to complete in 14 minutes.

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**CASE #39: Foot Pain**

**SUMMARY OF CASE FOR CONFEDERATE PHARMACY STUDENT:**

**Huddle:** Pharmacy student introduces themselves and offers to discuss case before patient arrives.Pharmacy student explains that they are available to help with medication questions pertaining to therapy options, drug-drug interactions, side effects, and proper dosing, as you have reviewed the chart ahead of time. You review the medications and recent lab results with medical student and share that you have calculated the patient’s Creatinine Clearance (CrCl) to be 50 mL/min (mildly reduced kidney function). If student asks about the best way to collaborate, you might bring up that you can help with medication selection and educating the patient about pertinent medications.

* If medical student chooses to omit initial huddle, continue with visit as directed by medical student.
* Try to limit the time of the huddle to about 1 minute.

**In Room with Patient:** When the medical student starts to discuss pharmacotherapy for pain, medical student should involve pharmacy student by asking the pharmacy student to discuss medication options, their indications for use and possible side effects of the recommended drugs. When asked, pharmacy student will recommend medications specific to neuropathic pain such as pregabalin, gabapentin, venlafaxine, duloxetine, and amitriptyline. Pharmacy student identifies that opioids should only be tried after a patient has tried and failed other more appropriate options.Pharmacy student should not volunteer all the right answers – should wait for the medical student to ask and then answer the student’s questions.

Elderly Considerations: Pharmacy student identifies that some medication options used to treat diabetic neuropathy are also “Beers criteria” drugs. The Beers criteria is essentially a list of medications that are potentially inappropriate for use in adults aged 65 and older. This will be an important discussion to have with this patient who is 70 years old. See the below table to help guide this discussion. **You identify that either duloxetine or venlafaxine are good options** for treating this patient.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Brand Name** | **Generic Name** | **Drug Class** | **BEERs Criteria** | **Possible Side Effects/Notes**  |
| Lyrica | Pregabalin | Anticonvulsants  | Avoid – avoid unless safer alternatives are NOT available, avoid except for use in seizures/mood disorders | Somnolence, dizziness, drowsiness, weight gain, peripheral edema, dry mouth  |
| Neurontin | Gabapentin | Dizziness, fatigue, peripheral edema  |
| Cymbalta | **Duloxetine**\*Actually approved for treatment of diabetic neuropathy | SNRI Antidepressants | Use with caution – could cause low levels of sodium in the body – also known as “hyponatremia” (this can be monitored)  | Nausea, headache, fatigue, dry mouth |
| Effexor | **Venlafaxine** | Nausea, insomnia, dry mouth, dizziness, fatigue, sweating  |
| Elavil | Amitriptyline | Tricyclic Antidepressants | Avoid – anticholinergic (can cause dry mouth, blurry vision, constipation, drowsiness, memory impairment), adverse central nervous system effects,may decrease urinary flow in men  | Multiple including dizziness, headache, fatigue, confusion, nausea, constipation, dry mouth |
| Norpramin | Desipramine |
| Pamelor | Nortriptyline |
| Many! Some common examples are:Ultram (tramadol), Percocet (oxycodone+acetaminophen), Vicodin (hydrocodone + acetaminophen) | Opioids (Narcotics) | Avoid – generally reserved for use in treatment of acute pain (recent fractures or joint replacement) | Not used as first line due to increased risk of falls in elderly, sedation, abuse or misuse |

Kidney Function Considerations: Pharmacy student identifies that renal (aka kidney) function should be addressed and evaluated prior to prescribing medication in order to assess for possible decreased kidney function and thus recommend appropriate starting dose of medication. Pharmacy student can note that the advil/ibuprofen (NSAID) that the patient is taking may also worsen kidney function.

* Both students at this point refer to patient’s recent Basic Metabolic Panel (BMP) results, as well as the CrCl that the pharmacy student has estimated to be 50 mL/min
	+ Pharmacy student shares appropriate renal dosing recommendations with medical student.
		- * Duloxetine: In patients with CrCl greater than or equal to 30 there are no dose adjustments required
			* Venlafaxine: In patients with CrCl between 10 and 70, the total daily dose should be reduced by 25 – 50%
	+ Based upon patient’s CrCl, **duloxetine (Cymbalta) is deemed the best choice** as there is no renal dose reduction required. If medical student is unaware of starting dose, you can provide initial dose information of 30 mg once daily. Education is provided to the patient that if renal function worsens, adjustments should be considered.

Pharmacy student should be aware of the cost of all the medication options if asked. Pharmacy student and medical student collaborate to develop an appropriate follow-up plan to address improvement in symptoms and tolerability of new medication.

**Case #39: Foot Pain**

**Feedback Worksheet (Faculty and Student)**

1. **History**:

* Respectfully greets patient and pharmacy student yes no
* Conducts brief huddle with pharmacy student, with inquiry yes no

 about any concerns OR how best to work together

* Elicits an organized, complete HPI for current problem yes no
* Explores patient’s view of the problem yes no
* Elicits a relevant family and social history yes no
* Elicits history of diabetes yes no

2. **Physical Exam**:

* Washes hands yes no
* Checks gait yes no
* Checks feet/nails and patient’s footwear with general inspection yes no
* Performs Vibration, Monofilament exam of feet yes no
* Checks dorsalis pedis, posterior tibialis pulses yes no

3. **Management**:

* Educates patient regarding association between DM and pain yes no
* Invites opinion of pharmacy student in encounter yes no
* Discusses patient safety issues regarding opioids yes no
* Offers patient appropriate analgesia yes no
* Recommends lifestyle interventions yes no
* Encourages improved diabetes follow-up and management yes no

4. **Closure**

* Closes interview with clear sense of what next steps will be yes no
* Encourages involving family members in lifestyle changes yes no
* Confirms patient understanding of the plan yes no

**Diagnosis**: Diabetic peripheral neuropathy

**Teaching Points:**

1. Understanding a patient’s perspective about their symptoms is essential for good patient care.
2. Team huddles with the care team, with or without patient, improves patient safety, improves outcomes and enhances care for complex patients.
3. Recognizing microvascular complications of diabetes is essential to delivering good care.
4. A good foot exam is a critical part of the evaluation of a patient with diabetes.
5. Pharmacy colleagues can improve prescribing practices and provide medication and disease state education to patients.
6. Patient education around both pharmacologic and lifestyle interventions is integral to comprehensive care of patients with diabetes and its complications.
7. First line medical treatment for neuropathic pain does not involve opioids.

Summary observations of student using the +/Δ form below.

 + Δ

 (Positives to be repeated/continued) (Things student should change)