



## Regions III, IV & V Conference



**SNPhA/Kroger Clinical Skills Competition**  
New Orleans, Louisiana  
March 23, 2018

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## PATIENT CASE

Emily Tucker is a 28-year-old Hispanic woman with a past medical history of diabetes, hypertension, and GERD. Her engineering career is very demanding and she mostly sits at her desk working long hours. She has smoked for the last 15 years and usually has her first cigarette during her lunch break to calm her nerves. She generally smokes 4 or 5 more cigarettes throughout the rest of the day. When she gets home, all she wants to do is watch TV while eating food she picked up on the way from work. She doesn't drink alcohol.

She was recently diagnosed with hypercholesterolemia and is coming to Kroger Pharmacy to pick up her new medications. This diagnosis caught her a little off-guard because she started taking red yeast rice supplements 3 months ago at the suggestion of her coworker. Ms. Tucker made a promise to her fiancé that she would quit for good before they get married and start a family in a few years. She is interested in trying the patch because it seems simple enough.

### Medication Profile

*\*NEW\** Simvastatin 10 mg by mouth once daily  
Lisinopril 20 mg by mouth once daily  
Metformin 500 mg by mouth twice daily  
Omeprazole 20 mg by mouth once daily

No allergies on profile

Immunization record is not up-to-date

### Clinical Counseling Pearls

- Counsel on new prescription
- Advise patient on potential drug-drug and/or drug-food interactions
- Counsel patient on OTC medications
- Recommend lifestyle modifications

### **IMPORTANT NOTE**

**The information provided in this answer key is detailed for completeness. Students are expected to use professional judgement to educate the patient with the most pertinent counseling points within the allotted time (5 minutes).**

**Students are evaluated on professional knowledge, clinical pearls, communication skills, and patient interaction during the counseling session.**

## ANSWER KEY

### New Prescription

#### *Simvastatin – cholesterol medication*

- Take one 10 mg tablet by mouth every night at bedtime
- Avoid becoming pregnant while taking this medication; this medication will be harmful to the baby. Use effective contraception methods (e.g. condoms, prescription birth control). The patient should consult with her doctor about changing medications when she is ready to start her family.
  - NOTE: Smoking cessation is a must if oral contraceptives are recommended.
- Side effects include constipation, nausea, abdominal pain, headache, insomnia, vertigo, and upper respiratory infections
- Report any symptoms of myopathy and/or rhabdomyolysis (e.g. muscle pain or tenderness, especially when accompanied by fever or malaise)
- Avoid grapefruit juice while taking this medication
- Avoid overexposure to sunlight. Use a sunscreen and wear appropriate clothing
- If a dose is missed, take it as soon as possible. If taken within 12 hours of the next dose, skip the next dose and continue with regular schedule.
- Patient must discontinue red yeast rice, as this would be duplicate therapy
- Store in a cool, dry place away from sunlight and children
- Warnings/precautions
  - Contraindicated during pregnancy or lactation and in patients with active liver disease or unexplained persistent elevations of serum transaminases
  - Use with caution in patients with any amount of liver dysfunction and in patients who consume large amounts of alcohol
  - It is recommended that liver function tests be performed every 4 to 6 weeks during the first 15 months of therapy and periodically thereafter
  - Increases in serum transaminases of more than 3 times the normal level should warrant discontinuation
  - If serum transaminase levels do not decrease upon discontinuation, a liver biopsy should be considered
  - May cause optic nerve degeneration
  - May cause myopathy or rhabdomyolysis

### Drug Interactions

#### *Drug-Drug Interactions*

- Red yeast rice and simvastatin (contraindicated) - Avoid concurrent use of red yeast rice with statins. Toxicity can result in myalgia, rhabdomyolysis, liver dysfunction, etc.
- Lisinopril and metformin (moderate) - ACE-inhibitors may enhance the adverse/toxic effect of metformin, including risk for hypoglycemia and lactic acidosis.
  - Monitor patient response to metformin closely if the patient is taking the two drugs together, especially if the patient has other risk factors for hypoglycemia or lactic acidosis.
    - Hypoglycemia symptoms: tremor, palpitations, fatigue, sweating, confusion
    - Lactic acidosis symptoms: fast and shallow breathing, muscle pain or cramping, lack of appetite, fatigue

- *NOTE: The degree to which ACE-inhibitors contribute to an increased risk is unclear, but closer monitoring is likely prudent when possible.*
- Simvastatin and omeprazole (moderate) - PPIs may increase the serum concentration of statins.
  - Monitor for evidence of rhabdomyolysis and other adverse effects if a PPI and statin are given together.
    - Rhabdomyolysis symptoms: muscle pain, muscle weakness, fever, malaise, red or brown urine

#### *Drug-Food Interactions*

- Simvastatin and cranberry and/or grapefruit juice (major) - may result in increased risk of hepatitis and myopathy/rhabdomyolysis
- Omeprazole and cranberry (moderate) - may result in reduced effectiveness of PPI

### **OTC Medications**

*Nicotine patch – NicoDerm CQ (brand), Nicotine Transdermal System Patch (Kroger brand) for smoking cessation*

- Since the patient is a light smoker (less than 10 cigarettes per day), her regimen should be as follows:
  - Weeks 1-6: use one 14 mg patch daily
  - Weeks 7-8: use one 7 mg patch daily
  - Do not use more than 1 patch per day
- Purchase the 14 mg/day patches to start and use 1 patch daily for 6 weeks. Then, taper down to the 7 mg/day patches and use 1 patch daily for 2 weeks.
- Choose an area of skin on the upper body or upper outer part of the arm
- Make sure skin is clean, dry, hairless, and not irritated
- Apply the patch to a different area each day. Do not use the same area again for at least 1 week.
- Remove the patch from its protective pouch and peel off half of the backing from the patch. Apply the adhesive side to skin and peel off the remaining protective covering. Press firmly with palm of hand for 10 seconds. Make sure the patch sticks well to the skin, especially around the edges.
- Wash hands afterwards. Nicotine on the hands can get into eyes or nose and cause stinging or redness.
- Do not leave the patch on skin for more than 24 hours; doing so may lead to skin irritation.
- Any adhesive remaining on the skin may be removed with rubbing alcohol or acetone.
- Dispose of the used patch by folding it onto itself, completely covering the adhesive area.
- Water will not harm the nicotine patch if it applied correctly. The patient may swim, shower, or exercise while wearing the patch.
- Do NOT cut patches to adjust the dose. Nicotine may evaporate from cut edges, and the patch may be less effective.
- Keep new and used patches out of the reach of children and pets.
- Remove the patch before any MRI procedures.
- Side effects to expect in the first hour include mild itching, burning, and/or tingling.
- Possible additional side effects include vivid dreams, sleep disturbances, and/or headaches.

- The patient may wear the patch for 16 hours if it causes sleep disturbances (remove at bedtime).
- After removing the patch, skin may appear red for 24 hours. If skin stays red for more than 4 days or if it swells or a rash appears, contact your doctor; do not apply a new patch.
- The nicotine patch is not recommended for use by patients with dermatologic conditions, such as psoriasis, eczema, or atopic dermatitis.
- Nicotine gum or lozenges (low dose forms) may be used in combination with the transdermal patch for breakthrough cravings.

*Red Yeast Rice – supplement for managing cholesterol*

- Red yeast rice is contraindicated with simvastatin (duplicate therapy). The patient must discontinue this supplement.

**Lifestyle Modifications**

- Dietary changes for heart health - reduce sugar and saturated fat intake; eliminate trans-fat; increase omega-3, unsaturated fat, and fiber
- Incorporate aerobic activity on a regular basis - moderate to vigorous intensity exercise for 30 minutes 5 times per week
- Weight loss
- GERD management
  - Limit “trigger” foods and beverages - fatty meals, garlic, onions, spicy foods, coffee, Coca-Cola, coffee, tea, etc.
  - Stop smoking
  - Eat no later than 3 hours before bedtime
  - Elevate the head of the bed with a wedge
  - BONUS: Omeprazole is not a medication that should be used long-term. H2RAs are a safer alternative (e.g. Pepcid, Zantac)
- Smoking cessation
  - Adherence to nicotine replacement therapy (NRT)
  - Consider behavioral counseling in addition to NRT to maximize success
- Reduce stress
  - Get more sleep and try to have a consistent sleep schedule and/or bedtime routine to wind down.
  - Use relaxation techniques like meditation, yoga, or deep breathing exercises. These can be incorporated throughout the day.
  - Incorporating exercise into the daily routine can be beneficial. She may consider taking a walk in the morning or during lunch breaks.
  - Be more intentional about taking personal time to rejuvenate and refocus.
- Update immunization record
  - Annual flu shot
  - Td once + Td booster every 10 years

## **Additional Counseling (Existing Prescriptions)**

### *Lisinopril – blood pressure medication*

- Take one 20 mg tablet by mouth every morning (with or without meals)
- This drug may cause nausea, vomiting, dizziness, headache, or angioedema of the face, lips, throat, or intestines
- Report any signs or symptoms of low blood pressure, persistent cough, vomiting, or angioedema of the face, lips, throat, or intestines
- Do not suddenly discontinue this medication
- Consult with the pharmacist before taking any over-the-counter cough, cold, and allergy medications
- Minimize potassium-rich foods or any over-the-counter potassium-containing supplements, as lisinopril has an increased risk of elevating serum potassium (e.g. bananas, cantaloupe, potatoes, sweet potatoes, white beans)
- If a dose is missed, take it as soon as possible. If it's closer to the time of the next dose, skip the missed dose and return to your regular dosing schedule. Do not double doses.
- Store in a cool, dry place away from sunlight and children
- Warnings/precautions
  - Contraindicated in patients with a history of angioedema related to a previous treatment with an ACE-inhibitor
  - Use with caution in impaired renal function
  - Risk for potentially serious hyperkalemia is increased with use of potassium-sparing drugs, potassium supplements, diabetes mellitus, and impaired renal function
  - Hypoglycemia may occur when therapy is added to patients taking oral antidiabetics and/or insulin
  - Angioedema and/or severe hypotension may warrant discontinuation
  - Rarely associated with a syndrome that starts with cholestatic jaundice or hepatitis and progresses to fulminant hepatic necrosis and sometimes death

### *Metformin – diabetes medication*

- Take one 500 mg tablet twice daily with meals
- Side effects may include diarrhea, dyspepsia, flatulence, nausea, vomiting, headache, increased sweating, or asthenia
- Avoid excessive amounts of alcohol
- If a dose is missed by more than a couple of hours, skip it and return to the regular dosing schedule. Do not double doses.
- Stay well hydrated during therapy by drinking plenty of fluids
- Monitor for symptoms of hypoglycemia (increased thirst, headaches, trouble concentrating, blurred vision, frequent urination, fatigue)
- Store in a cool, dry place away from sunlight and children
- Warnings/precautions
  - Contraindicated in patients with impaired renal and/or hepatic function
  - Temporarily discontinue therapy when undergoing radiologic studies involving parenteral administration of iodinated contrast material because of effects on renal function
  - Do not use in patients with acute or chronic metabolic acidosis, including diabetic ketoacidosis
  - Fatal lactic acidosis may occur in patients with elevated blood levels of metformin or if the patient is dehydrated
  - Monitor renal function to avoid drug accumulation

*Omeprazole – heartburn medication*

- Take one 20 mg capsule 30 minutes prior to eating
- Antacids may be taken at the same time
- Side effects may include abdominal pain, diarrhea, nausea, vomiting, flatulence, and headache
- Report any symptoms of systemic lupus erythematosus (unexplained fever, red rash on the face, chest pain, hair loss)
- Report diarrhea that does not improve and contact the doctor or pharmacist before taking antidiarrheal medication
- If a dose is missed, take it as soon as possible. If it is closer to the time of the next dose than the dose that was missed, skip the missed dose and return to the regular dosing schedule. Do not double doses.
- Store in a cool, dry place away from sunlight and children
- Warnings/precautions
  - Animal studies have shown a dose-related increased risk for gastric carcinoid tumors with long-term use; the levels of drug needed to produce tumors far exceeded the normal daily dose
  - Use of proton pump inhibitors may increase the risk of *Clostridium difficile*-associated diarrhea
  - Increased incidence of osteoporosis-related bone fractures of the hip, spine, or wrist may occur with proton pump inhibitors