1. The patient is exhibiting a productive cough and a low-grade fever. Chest X-ray on PA view shows a left lower chest area of consolidation adacent to the left border of the heart approximately 2 rib spaces above the costophrenic angle. The lateral x-ray view shows this lesion absent of the window posterior to the cardiac silhouette. Which is the most likely location of this area of focal consolidation?

*Left upper lobe apex
*Right middle lobe
*Left upper lobe lingula
*Left lower lobe

Lef t upper lobe lingula

- Rationale: Lingular consolidation is described in this question precisely. If the cardiac margin/silhouette is obliterated by the mass, the lesion is either right middle lobe or left upper lobe lingula.

2. The inability to fully relax the myocardium during relaxation is a trademark of which of the following diagnoses?

Diastolic dysfunction

- Rationale: The inability for the heart to relax is a trademark of the diagnosis of diastolic dysfunction and is common in patients with thickened hypertrophic myocardium.

3. An otherwise healthy African American adult male has been diagnosed with hypertension. He has been restricting his salt intake, eating a DASH (Dietary Approaches to Stop Hypertension) diet, and exercising more, but his blood pressure is still elevated. Which is the BEST medication to prescribe him?

Calcium channel blocker

- Rationale: African American patients per NC8 Hypertension Guidelines should be managed with a dihydropyridine calcium channel blocker such as amlodipine (Norvasc) as first line management therapy for hypertension not at goal with DASH and lifestyle modifications.

4. Your patient has been diagnosed with a 4.5cm ascending aortic aneurysm. Which medical imaging is considered standard of care for serial surveillance?

CT angiography of the chest

- Rationale: CT angiography is considered the standard of care for measuring vascular luminal dimensions with contrast. CT PE protocol is not timed properly for the aorta (it's timed for the pulmonary artery). Although a plain film is able to catch large aneurysms at times, they are not able to provide multi-axis reconstruction needed to accurately measure the size. Transesophageal echo is not needed to accurately measure the aorta and requires the patient to undergo sedation which is unnecessary.

5. Which of the following medications does not cause beta 1 stimulation?

phenylephrine

- Rationale: Phenylephrine only stimulates alpha 1 receptors. The remaining three all have beta receptor activity.

6. A 50-year-old woman with a history of hypertension presents with dyspnea on exertion and orthopnea. On examination, she has ugular venous distention and bilateral crackles on lung auscultation. What is the most likely diagnosis?

Congestive heart failure

- Rationale: Of the available options, the most accurate response is congestive heart failure as it is signifying both a right ventricular back up with ugular venous extension and crackles on lung assault, which are suggestive of left ventricular back up. it is possible the patient may have an acute myocardial infarction that precipitated this, however, a patient has not described that, rather is only describing dyspnea on exertion and orthopnea, which both speak to a state of fluid overload. The only appropriate response of these available is congestive heart failure.

7. Your patient with a history of HFrEF (heart failure with reduced eection fraction) with an eection fraction of 40% who is also not on optimal medical therapy has been diagnosed with a myocardial infarction this admission and received emergent placement of a drug-eluting stent to the left anterior descending artery. As the medical home who will manage this patient after discharge, which medication strategy would you expect to be a priority in the patient's care?

Ordering a transthoracic echocardiogram and order a Lifevest if EF is less than 35%

- Rationale: The patient should have a protective mechanism such as an implantable automated cardioverter defibrillator (AICD) or a Lifevest if the EF is less than 35% due to the increased risk of sudden cardiac death with low EF states. Since most patients are not eligible for 90 days for an AICD in this state, optimizing their medication regimen and repeating an echo in 2-3 months to re-evaluate for improvement in their EF is required by most insurance companies. A baseline echo is needed at discharge to provide a baseline for improvement vs their repeat echo in 2-3 months.
Dual anti-platelet therapy is required for 12 months minimum post-MI.
A Holter monitor does not provide any conceivable benefit for this patient as presented.

8. Which of the following people groups represent the least risk of cardiac disease?

Caucasians

- Rationale: Statistically African Americans, Native Hawaiians, and American Indians are at at increased risk of cardiac disease due to higher rates of hypertension, diabetes, and obesity than Caucasians.

9. A 65-year-old woman presents for a follow-up examination. She is a smoker, and her hypertension is now adequately controlled with medication. Her mother died at age 40 from a heart attack. The fasting lipid profile shows cholesterol = 240 mg/dL, HDL = 30, and LDL = 200. In addition to starting therapeutic lifestyle changes, the nurse practitioner should start the patient on:

a statin drug.

- Rationale: Bile acid sequestrants and cholesterol absorption inhibitors may be useful in reducing ASVD risk, but for a patient who is an active smoker with premature coronary disease history (less than age 65 for women), has hypertension and is farfrom an LDL goal, this patient is most certainly a candidate for statin therapy, which represents the most aggressivetherapy option of these four listed.

10. Which of the following end-organ sequelae is not directly caused by uncontrolled hypertension?

Peripheral neuropathy

- Rationale: Although patients with hypertension frequently have peripheral neuropathy, it is only directly attributed to patients who are also diabetic and is commonlyfoundinnon-hypertensivediabeticpatients.Proteinuria,AVnicking, and hemorrhagic stroke are all caused by uncontrolled hypertension.

11. Preventive cardiac care should focus primarily on addressing all the following except?

Genetic predisposition

- Rationale:Smokingcessation,exerciseandmedicationcomplianceallrepresentmodifiableriskfactorsandshouldbethefocusofpreventivecare.Non-modifiable risk factors such as age, gender,genetic/family history should not be the primary focus of prevention.

12. A 33-year-old woman presents with irregular menstrual cycles, hirsutism, andobesity.LaboratorytestsrevealelevatedserumtestosteroneandLHratio>2:1. What is the most appropriate initial treatment?

Oral contraceptives

- Rationale: These are classic symptoms of polycystic ovarian syndrome, and the patient should be treated with oral contraceptives to help stabilize their estrogen and progesterone. Additionally, they may be managed on metformin and/or spironolactone for their PCOS. Oral contraceptive pills (OCPs) are often the first pharmacological treatment for polycystic ovary syndrome (PCOS) because they help manage in several ways:

Menstrual irregularities: OCPs can help regulate menstrual cycles, making periods lighter and more regular. This is important because irregular ovulation can lead to endometrial hyperplasia, which is a buildup of uterine tissue that can increase the risk of uterine cancer.

Androgen excess: OCPs can reduce androgen production and increase sex hormone-binding globulin (SHBG), which binds androgens. This can help reduce symptoms like acne, hirsutism (unwanted body and facial hair), and androgenic alopecia (male pattern baldness).

Endometriumprotection:OCPscanprotecttheendometriumbyensuringregular ovulation

13. A 50-year-old woman with hypertension and diabetes comes in for a routine check-up. What screening test should be regularly performed to monitor for early signs of diabetic nephropathy?

Urine dip stick for protein

- Rationale: The most sensitive indicator of diabetic nephropathy would be the evidence of small proteins in the urine (proteinuria) as found on urinalysis. The other options might describe macro-organ function (such as BUN/Creat from a BMP, a renal biopsy which is not indicated for routine diabetic nephropathy testing,andaAbdCT,whichismoreakintoevaluationoflesssubtlefindings), but at the functional level of the nephron, namely the glomerulus, evidence of glucose-related damage is easily identified with proteinuria from a UA.

14. Which of the following is at highest risk for DMII?

An adult woman with a BMI of 27 who ust delivered a baby weighing 9 1/2lbs

- Rationale: Of these options, an adult woman with a BMI of 27 who ust delivered a baby weighing 9 1/2 lbs is the most likely due to their increased BMI and the large size of the baby. giving birth to a large baby, also known as a large-for-gestational- age (LGA) baby, can increase the risk of developing type 2 diabetes later in life. Women who give birth to a LGA baby are 10% more likely to develop DMII

10-14 years after pregnancy compared to women who give birth to babies of average gestational age (AGA). This increased risk is even after adusting for other risk factors, such as age, obesity, high blood pressure, and family history of diabetes.

15. A starting dose for a elderly adult patient with a BMI of 20 needing levothryoxine

0.25 mcg

- Rationale: The widely considered best practice for treatment of hypothyroidism in the elderly is to "go slow and start low". 25 mcg is the most appropriate low dose tostartwithoftheseoptions.Itispossiblethatovertimethedosewillbeincreased until therapeutic levels are obtained, but the risk of over-dosing the patient outweighs the desire to quickly achieve this state.

16. An adult female who recently returned for a recheck appjointment. The only remarkable laboratory result is for thyroid-stimulating hormone (TSH), at 0.3 microunits/mL (normal = 0.4-6 microunits/mL). The patient reports that her neck hurts; examination reveals thyroid tenderness. Which of the following laboratory tests should the nurse practitioner order now?

Triiodothyronine (T3) and free thyroxine (FT4)

- Rationale: Remember that a patient with low TSH is suspicious of hyperthyroidism with a corresponding finding of elevated T3/T4 and clinical symptoms of a goiter, tremulousness, anxiety, palpitations, weight loss, insomnia, diarrhea, etc. This patient is describing a sore neck as well, which is suggestive of Graves disease (hyperthyroid state).

17. All the following are symptoms of hypocalcemia except:

Visual field deficits

- Rationale:Visual field deficits is a potential symptom of pituitary adenoma. All other are symptoms related to hypocalcemia.

18. An adult patient diagnosed with type 2 diabetes mellitus presents for a recheck. The patient follows a carbohydrate counting diet and walks 30 minutes 5 times weekly. Current fasting blood glucose = 116 mg/dL [normal = less than 99 mg/dL] and A1c = 6.3% [normal = less than 7.0%]. In accordance with the American Diabetes Association, the nurse practitioner would recommend that the next follow-up appjointment be scheduled for:

6 months.

- Rationale: Based off of the ADA recommendation, this patient should be evaluated in six months. They are actually showing good control and excellent compliance with diet and exercise management strategies. If there compliance was worse or they were not controlled with their A1c, this would likely be a three month follow up.

19. Your patient has a diagnosis of Hashimoto's and is on Levothyroxine 75 mcg daily. Her recent TSH was elevated at 15 uU/mL. Your next best action is to:

Increase Levothyroxine to 100 mcg daily

- Rationale: When the TSH is elevated the patient needs more thyroid hormone. Once diagnosed with Hashimoto's there is no clinical need/benefit to repeating anti bodies.

20. A patient has a 3cm pituitary mass noted on CT. What is your next step in evaluating the patient?

Screen for hormone deficiencies

- Rationale: Initial work up includes hormone testing. Cabergoline is the treatment for prolactinoma. Surgery consult is indicated when there are VF deficits and/or abutment/compression on optic nerves or chiasm or if adenoma is hyperfunctioning.Adenomas>1cmwithnoVFdeficitorabutment/compression of optic nerves or chiasm require a follow up MRI at 6 months.

21. An adult female presents with a chief complaint of fatigue and weight gain. She statesthatshedoesn'tfeellikeherself.Adiagnosisofhypothyroidismissuspected. Which of the following physical findings would support this diagnosis?

Dry skin, bradycardia, and hypoactive deep tendon reflexes

- Rationale:Dryskin,bradycardia,andhypoactivedeeptendonreflexesareallfairly classic signs of hypothyroidism. To further substantiate these concerns, the patient should have their TSH and T3 and Free T4 checked, and it is likely their TSH would be elevated, T3/T4 low.

22. An older adult patient with new onset GERD, cough, heartburn. Initial tx

Antacid and lifestyle modification/weight loss

- Rationale: Before initiating a PPI or H2RA, it would always be wise to initiate diet/exercise and symptom management when present with an antacid. Loss of weight/dieting is most likely to deal with obesity as the most common underlying cause of GERD.

23. A59-year-oldmalepresentswithsymptomsofabdominalpain,aundice,and weight loss which he has not been trying to lose weight. What would be a malignancy associated with these symptoms?

Pancreatic cancer

- Raionale: Pancreatic cancer, the most typically presentation includes abdominal pain,aundice,andweightloss.Althoughweightlossandabdominalpainmaybe present with adenocarcinoma it is unlikely to present with aundice, and you're unlikely to have abdominal pain or aundice with any esophageal malignancy.