APEA 3P Exam Prep- Cardiovascular(This is a study set for the APEA 3P exam that is required to be taken in the third "P" course of Post University's MSN-FNP degree program).

Which patient could be expected to have the highest systolic blood pressure?
A 21-year-old male
A 50-year-old perimenopausal female
A 35-year-old patient with Type 2 diabetes
A 75-year-old male - Answer D.
Nearly 25% of the US population has hypertension. The greatest incidence is in older adults because of changes in the intima of vessels as aging and calcium deposition occur. Males of any age are more likely to be hypertensive than females of the same age. African American adults have the highest incidence in the general population. Among adolescents, African Americans and Hispanics have the highest rates. Hypertension occurs in 5-10% of pregnancies.

Mrs. Brandy is having contrast dye next week for a heart catheterization. What drug does NOT need to be stopped prior to her catheterization?
Naproxen
Furosemide
Metformin
Losartan - Answer D.
Naproxen and furosemide should be stopped for 24 hours prior to the catheterization. Metformin should be stopped 48 hours prior to the catheterization. Furosemide is stopped because it contributes to volume depletion. NSAIDs like naproxen are withheld because of the impact on renal prostaglandin production. Metformin has been implicated in lactic acidosis when combined with contrast dye in an impaired kidney.

In older adults, the three most common ailments are:
hearing loss, vision loss, hypertension.
hearing loss, hypertension, arthritis.
depression, vision loss, hypertension.
arthritis, hearing loss, depression. - Answer B.
Hypertension and arthritis are the two most common ailments in older adults. Hearing loss occurs in half to almost 2/3 of older adults. The most common form is known as presbycusis. There is no consensus for the frequency of screening for hearing loss in older patients, but minimally, it should be grossly evaluated at each visit and screened more thoroughly if deficits are observed. Blood pressure should be screened annually, but it is usually screened at each visit. Arthritis is not routinely screened.

Mr. Holbrook, a 75-year-old male, is a former smoker with a 30-pack-year history. He has come in today for an annual exam. He walks daily for 25 minutes, has had

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intentional weight loss, and has a near-normal BMI. On examination, the patient is noted to have an absence of hair growth on his lower legs. Which statement is true regarding this patient?
This is a normal consequence of aging.
This might indicate disease in the lower extremities.
It might be from exercise initiation.
This is secondary to long-term smoking. - Answer B.
An absence of hair growth likely indicates peripheral artery disease in this patient. It is part of normal changes of aging that hair growth will diminish, but not become absent. His lower extremity pulses should be assessed, his cardiac risk factors should be assessed (he smoked for years), and he should be questioned about leg pain when he walks. An ankle-brachial index could be measured. If < 0.9, further assessment should be done. A normal ankle-brachial index should be greater than 0.9. Less than 0.4 is considered critical.

The usual clinical course of mitral valve prolapse:
is benign.
results in sudden cardiac death.
results in chronic heart failure.
is associated with multiple episodes of emboli. - Answer A.
The usual course of mitral valve prolapse (MVP) is benign, and most patients who have MVP are asymptomatic. A murmur may be present and is best auscultated with the diaphragm of the stethoscope over the cardiac apex. In a minority of patients, symptoms of heart failure or sudden death may occur. When heart failure results, it is usually a result of mitral regurgitation. Embolization may occur, but, this is not common or usual in the majority of patients.

An ACE inhibitor is specifically indicated in patients who have:
hypertension, diabetes with proteinuria, and heart failure.
diabetes, hypertension, hyperlipidemia.
asthma, hypertension, diabetes.
renal nephropathy, heart failure, hyperlipidemia. - Answer A.
ACE inhibitors have numerous indications. Three are indicated in the first choice. ACE inhibitors are also indicated in patients who have renal insufficiency. However, ACE inhibitors can worsen renal insufficiency, so the patients must be monitored closely with lab tests for BUN, Cr, and potassium. Diabetes without proteinuria is not a specific indication for ACE inhibitors use, though they are used by some healthcare providers in this way. This is an off-label use.

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An older adult who has hypertension and angina takes multiple medications. Which one of the following decreases the likelihood of his having angina?
ACE inhibitor
Beta blocker
Diuretic
Angiotensin receptor blocker - Answer B.
The beta blocker slows down heart rate, depresses myocardial contractility, and decreases sympathetic stimulation. These decrease myocardial oxygen demand and improve angina symptoms. It is an excellent drug class to use to prevent symptoms of angina in patients who have underlying coronary artery disease. Calcium channel blockers are another class of medications that could be used to improve symptoms of angina.

Orthostatic hypotension can be diagnosed in an older adult if the systolic blood pressure decreases:
more than 20 points anytime after rising.
more than 20 points within 3 minutes after rising.
more than 20 points within 1 minute after rising.
any degree drop if the patient becomes weak or dizzy. - Answer B.
Orthostatic hypotension, also called postural hypotension, is diagnosed in older adults when the systolic blood pressure drops 20 mm Hg or more within 3 minutes of moving to a more upright position. Systolic blood pressure can be expected to decrease within one minute of moving to an upright position. Normally, the blood pressure returns to baseline within one minute of a position change and orthostatic hypotension does not occur. It is always abnormal when blood pressure decreases beyond one minute of moving to an upright position. Orthostatic hypotension can then be diagnosed. Moving to an upright position may be 1) lying to sitting or 2) sitting to standing. Additionally, if the systolic blood pressure does not meet these criteria, but the diastolic drops by 10 mm Hg or more with a position change, orthostatic hypotension can be diagnosed. Patients become symptomatic when this occurs and often report lightheadedness, weakness, dizziness, blurred vision, or decreased hearing.

Which hypertensive patient is most likely to have adverse blood pressure effects from excessive sodium consumption?
21-year-old Asian American male
35-year-old menstruating female
55-year-old post menopausal female
70-year-old African American male - Answer D.

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Two groups of patients typically experience adverse blood pressure effects from consumption of sodium greater than 2,000 mg daily. Those patients considered to be most sodium-sensitive are elderly patients and African American patients. Thus, choice d is the best choice listed.

A patient who takes HCTZ 25 mg daily has complaints of muscle cramps. He probably has:
hypocalcemia.
hypomagnesemia.
hypokalemia.
hypercalcemia. - Answer C.
HCTZ is a thiazide diuretic that is potassium-wasting. Patients can become hypokalemic and experience side effects of this. A common one is muscle cramps.

A 25-year-old patient has aortic stenosis (AS). The etiology of his AS is probably:
congenital.
rheumatic.
acquired calcific.
unknown. - Answer A.
In someone younger than 65 years, the most likely cause is congenital. The aortic valve usually consists of three cusps, but some people are born with a bicuspid aortic valve. Rheumatic heart disease is the second most common cause of aortic stenosis in this age group, but the incidence has decreased drastically in the last many decades because of the use of antibiotics to treat Streptococcal infections. In more than 90% of patients older than 65 years, acquired calcifications appear on a normal aortic valve and produce aortic stenosis.

A 75-year-old patient with longstanding hypertension takes an ACE inhibitor and a thiazide diuretic daily. He has developed dyspnea on exertion and peripheral edema over the past several days. This probably indicates:
worsening hypertension.
development of heart failure (HF).
noncompliance with medication.
acute myocardial infarction. - Answer B.
The symptoms of dyspnea on exertion and peripheral edema are symptoms of HF. Long standing hypertension is a risk factor for HF. Acute myocardial infarction would result in acute symptoms, not development of symptoms over the past several days. Noncompliance with medication and fluid or sodium excess might result in peripheral edema and development of heart failure.

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A patient with newly diagnosed heart failure has started fosinopril in the last few days. She has developed a cough. What clinical finding can help distinguish the etiology of the cough as heart failure and not related to fosinopril?
It is dry and nonproductive.
It is wet and worse with recumbence.
It is purulent and tachycardia accompanies it.
Shortness of breath always results after coughing. - Answer B.
The cough associated with fosinopril, an ACE inhibitor, is a dry, nonproductive cough that may be described as annoying. Its severity does not change with position or time of day. A cough associated with heart failure is wet, worse when lying down, and is usually described by patients as worse at night. Choice c is often associated with fever and probably reflects an infectious process like pneumonia.

Which choice below would be the best choice for an 80-year-old patient whose blood pressure is 172/72 mm Hg?
Chlorthalidone
Amlodipine
Monopril
Acebutolol - Answer B.
This patient has isolated systolic hypertension. According to many learned authorities, this is best treated with a long-acting calcium channel blocker, particularly the ones that end in "pine." These belong to the class of calcium channel blockers termed dihydropyridines. Thiazide diuretics are not potent enough to decrease this patient's blood pressure into normal range, and its effect is not additive when combined with calcium channel blockers.

Which medication could potentially exacerbate heart failure (HF)?
Naproxen
Furosemide
Atorvastatin
Aspirin - Answer A.
Naproxen is an NSAID. NSAIDs cause sodium retention and thus, water retention. A single dose of naproxen is unlikely to produce HF symptoms, but repeated subsequent doses are very likely to produce water retention sufficient to cause edema and possible shortness of breath in susceptible people. The other medications listed are unlikely to have any direct effect on cardiac output in a patient who has HF.

Which patient is most likely to have mitral valve prolapse?
An adolescent male with no cardiac history

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A 25-year-old male with exercise intolerance
A 30-year-old female with no cardiac history
A 65-year-old male with shortness of breath - Answer C.
Mitral valve prolapse (MVP) is most commonly diagnosed in women aged 14-30 years of age. However, it can be found in children (though not usually) or in older adults. The symptoms most commonly associated with MVP are arrhythmias (both atrial and ventricular) and chest pain. However, most patients with MVP are asymptomatic.

You have been asked to evaluate a heart murmur in a pregnant patient. Can a 3D echocardiogram be safely used to evaluate her?
Yes, but this will not yield the best information.
Yes, this is perfectly safe.
No, this will emit radiation and is not safe.
Yes, but the mother will be exposed to radiation - Answer B.
An echocardiogram is the best test to evaluate a heart murmur whether the patient is pregnant or not. Echocardiography can be used safely in this patient because no radiation is emitted from 3D echo. The most common murmur in pregnant women is a venous hum murmur. It resolves within several weeks after delivery. It is benign.

A patient is diagnosed with mild heart failure (HF). What drug listed below would be a good choice for reducing morbidity and mortality long term?
Verapamil
Digoxin
Furosemide
Metoprolol - Answer D.
Metoprolol is a beta-blocker. Beta-blockers are known to reduce morbidity and mortality associated with HF. Verapamil is a calcium channel blocker. This class of medications is contraindicated because they decrease the contractility of the heart. Furosemide and digoxin will improve symptoms but not long-term outcomes. Their main benefit is in treating symptomatic patients.

The lipid particle with the greatest atherogenic effect is:
Cholesterol.
HDL.
LDL.
triglycerides. - Answer C.
LDL cholesterol promotes atherosclerosis via several different mechanisms. Consequently, LDL cholesterol tends to be the primary target when patients are