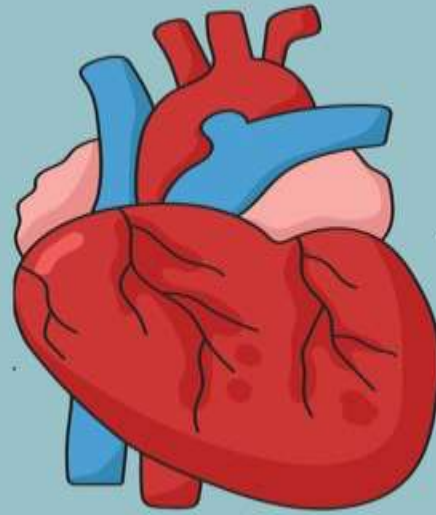


Edited past paper



By

Ahamd Alhaj
Jihad Abuzayed
Zeenah Alsmady
Alzahra'a Saleh



Adenosine may terminate all of the following tachycardias except:

- a) AV re-entrant tachycardia.
- b) AV nodal re-entrant tachycardia.
- c) Atrial fibrillation.
- d) Antidromic tachycardia.
- e) Atrial tachycardia.

Ans d

All are svt except for d.

Supraventricular Tachycardia (SVT)

- DDx of SVT

- Short RP Tachycardias ($RP < PR$):

- Typical AV Nodal Re-entry Tachycardia (AVNRT)
- Junctional Tachycardia
- Orthodromic Atrioventricular Tachycardia (OD – AVRT)
- Atrial Tachycardia



- Long RP Tachycardias ($RP > PR$):

- Sinus Tachycardia (ST)
- Atrial Tachycardia (AT)
- Atypical Orthodromic Atrioventricular Tachycardia (OD – AVRT)
- Atypical AV Nodal Re-entry Tachycardia (AVNRT)
- Junctional Tachycardia



- Mimickers:

- Atrial Flutter with rapid conduction
- A. Fibrillation with very rapid conduction

Slide 52

3) A 55-year-old man comes to the office for routine follow-up. Medical history includes hypertension, hyperlipidemia, coronary artery disease, stage 3 chronic kidney disease, and type 2 diabetes mellitus. Current medications include carvedilol, amlodipine, furosemide, lisinopril, nitroglycerin transdermal patch, insulin, simvastatin, aspirin, and gabapentin. The patient appears well, and he is not in acute distress. Body mass index is 27.9 kg/m². Pulse rate is 88/min, and blood pressure is 172/88 mmHg in the left arm and 170/78 mmHg in the right arm. Which of the following findings in this patient is the most likely cause of continued uncontrolled hypertension?

- a) History of hyperlipidemia.
- b) Age of patient.
- c) Body mass index.
- d) Smoking.
- e) Non-compliance with drug regimen.

Ans e

A,b,c,and d are risk factors not causes.


Which of the following conditions is NOT often associated with a prominent R wave in electrocardiographic lead V1?

- a) Duchenne muscular dystrophy.
- b) Wolff-Parkinson-White syndrome.
- c) Left anterior fascicular block.
- d) Posterior myocardial infarction.
- e) Right ventricular hypertrophy

Ans c

ECG CASES 15
TALL R WAVE IN V1

RBBB OR LEFT-SIDED VT
WPW - LEFT SIDED
ACUITE MI - POSTERIOR
VENTRICULAR HYPERTROPHY (RVH, HOCM)
EMBOLISM
DEXTROCARDIA, DYSTROPHY, DISPLACED LEAD



Which of the followings does not increase the incidence of bleeding in patient with atrial fibrillation on warfarin?

- a) Age above 55 years.
- b) Alcohol ingestion.
- c) Hypertension.
- d) Renal Failure.
- e) Stroke.

Ans a

Atrial Fibrillation - Management

Rate Control

- B-Blockers
- CCB
- Digoxin

Anticoagulation

- Warfarin
- DOACS

CHA2DS2-VASc Score	
CHF or LVEF \leq 40%	1
HTN	1
Age \geq 75	2
DM	1
CVA/TIA/TE	2
Vascular	1
Age 65-74	1
Female	1

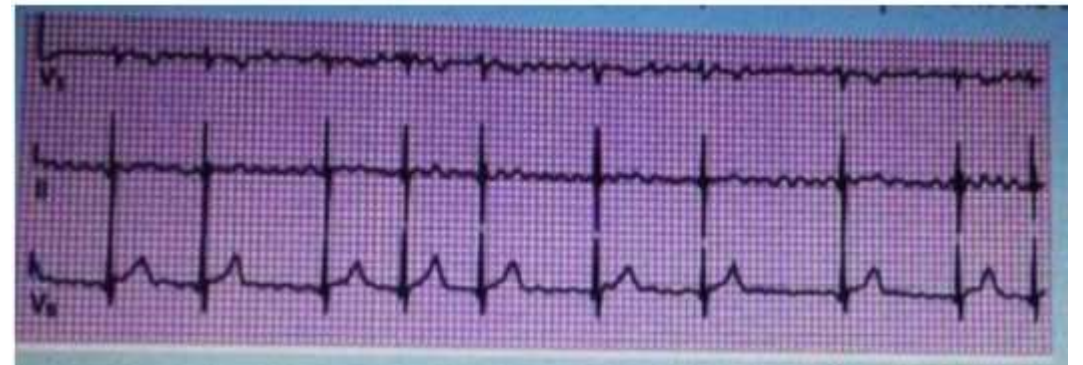
HAS-BLED score

Condition	Points
H - Hypertension	1
A - Abnormal renal or liver function (1 point each)	1 or 2
S - Stroke	1
B - Bleeding	1
L - Labile INRs	1
E - Elderly (> 65 years)	1
D - Drugs or alcohol (1 point each)	1 or 2

Slide 41

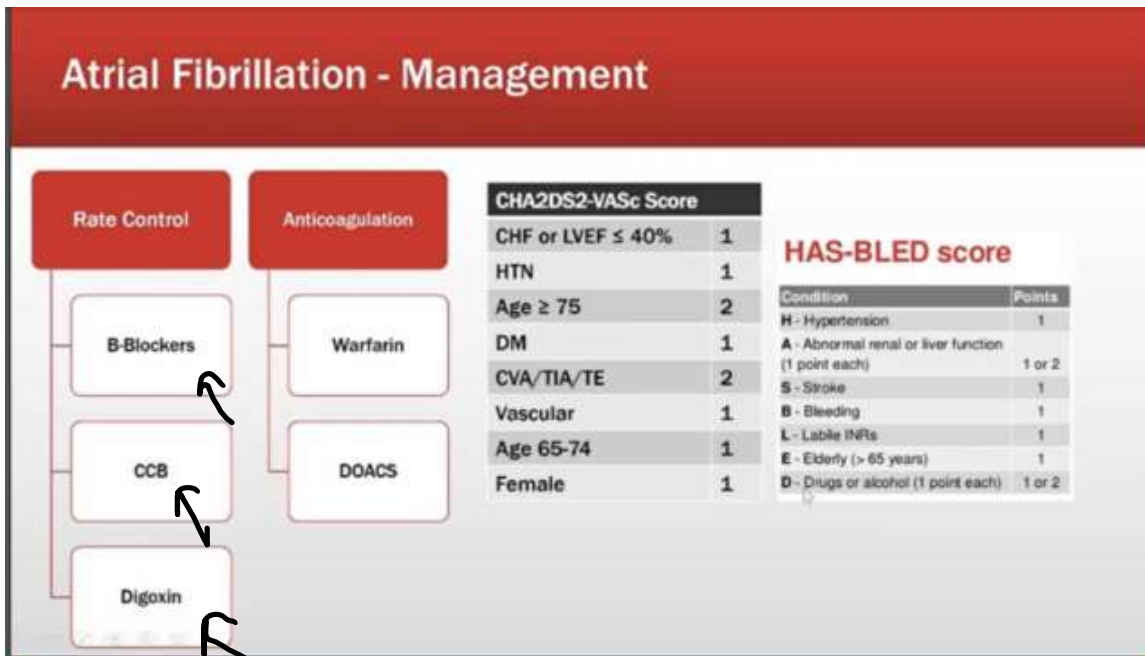
A 82-year-old man with diabetes mellitus and exertional angina is found to have three-vessel coronary artery disease and a left ventricular ejection fraction of 40%. He undergoes successful coronary artery bypass graft surgery. A rhythm strip obtained on the second postoperative day shows atrial fibrillation. Preoperative administration of one of the following therapies did not prevent the occurrence of this arrhythmia?

- a) Sotalol.
- b) Amiodarone.
- c) Digoxin.
- d) Metoprolol.
- e) Atorvastatin



Ans e

A and d are beta blockers , b posses ccb properties.



23 years old female presented with two hours history of palpitation and dyspnea, on evaluation emergency room her blood pressure 110/70mmHg, HR 160BPM, and bilateral chest wheezes. Her ECG shows narrow complex tachycardia with one P wave for each QRS complex.

What is the best management at this time:

- a) IV Metoprolol.
- b) IV Adenosine.
- c) IV Amiodarone.
- d) IV Lidocaine.
- e) IV Diltiazem.

According to 020 the ans is b because the patient is having an svt.

I think

“narrow complex tachycardia with one P wave for each QRS complex” is a description for sinus tachycardia (check min 5:41 from tachycardia lecture for sinus tachycardia explanation). Management of sinus tachycardia is by treating underlying cause.

b. IV Adenosine

“Because:It is the safest option in the setting of wheezing

May help diagnose the rhythm by transiently blocking AV node

Even if this is sinus tachycardia, adenosine will not harm and will confirm the diagnosis” chat gpt

A 27-year old male patient with a history of lymphoma presented to the emergency room with shortness of breath that started few days ago. Upon physical exam, his heart rate was 120 bpm (regular), blood pressure of 90/60 mm Hg and his systolic blood pressure dropped to 75 mm Hg during inspiration and pulse oximetry of 94% on room air. His cardiac and respiratory exam revealed distant heart sounds with increased JVP and clear lungs. What is the next appropriate step?

- a) Synchronized cardioversion.
- b) IV adenosine.
- c) Computed tomography of the thorax with contrast to rule out pulmonary embolism.
- d) Foley's catheter and intravenous (IV) torsemide.
- e) Pericardiocentesis.

Ans e

The diagnosis is cardiac tamponade.(a patient with hypotension is considered unstable)

Tamponade

- ✓ Dyspnea
- ✓ Tachycardia
- ✓ JVD
- ✓ Hypotension
- Pulsus paradoxus >10 mm Hg supports dx

Echo Findings:

- Effusion
- Diastolic collapse of right-sided chambers
- Increased respiratory variation of peak inflow velocities through TV and MV
- Dilated IVC without respire-phasic variation

Management

Hemodynamically stable:
IVF, close monitoring, serial TTE, treat underlying cause

Unstable:
-Aggressive IVF
→ Pericardiocentesis or surgery
-IABP for refractory hypotension
-Minimize PEEP

Which of the following biomarkers is most accurate for the diagnosis of heart failure?

- a) Troponine I.
- b) Troponine T.
- c) Creatinine Phosphokinase CK.
- d) Brain natriuretic peptide (BNP).

Ans d

Doctor mentioned in heart failure lecture that bnp is the most important for diagnosis(9:20 ;from heart failure lecture first semester)/ doctor mentioned that bnp is the main biomarker for diagnosis(13:57 ; from heart failure lecture second semester)

A 28 years old female presented with chest pain of one week duration described as sharp retrosternal pain, her symptoms improve with sitting and worsening when lying flat. Her Examination pericardial friction rub and her ECG shows diffused concave ST elevation and PR segment depression. Regarding this case, which of the following is true?

- a) Most cases are symptomatic.
- b) Heparin is the first line therapy.
- c) Tamponade is a common complication.
- d) Steroid is the treatment of choice.
- e) Colchicine decreases the recurrence rate.

Ans e

Treatment

- For most patients with acute idiopathic or viral pericarditis, combination therapy with colchicine plus NSAIDs rather than NSAIDs alone.
- ✓ This is based upon a reduced rate of recurrent pericarditis and a low incidence of side effects with colchicine.

Which of the following statements about natriuretic peptides is FALSE?

- a) Elevated plasma BNP levels predict adverse outcomes in patients with acute coronary syndromes.
- b) Prohormone BNP is cleaved into the biologically inactive N-terminal (NT) proBNP and biologically active BNP.
- c) Circulating levels of NT-proBNP levels decrease with age.
- d) Circulating levels of both atrial natriuretic peptide and brain natriuretic peptide (BNP) are elevated in patients with heart failure.
- e) Plasma BNP level is useful in distinguishing cardiac from noncardiac causes of dyspnea in the emergency department setting.

- Ans c

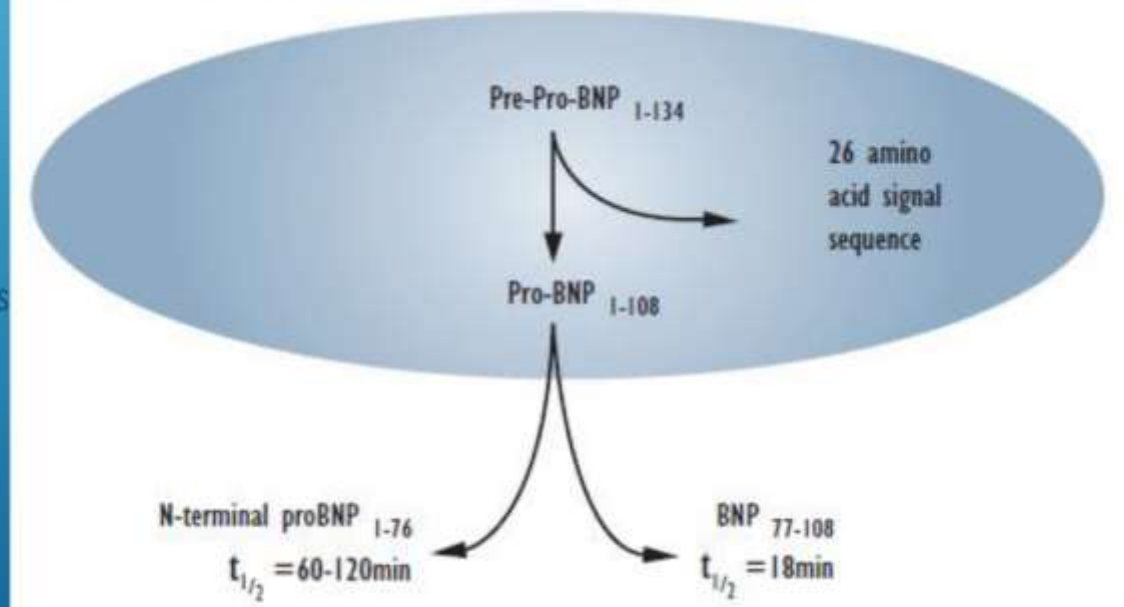
Age has no relation

CARDIAC NATRIURETIC PEPTIDES

- ▶ What is BNP?
 - ▶ A 32 amino acid polypeptide
 - ▶ Belong to a class of structurally similar natriuretic peptides (classes A,B,C and D)
 - ▶ Secreted by cardiac myocytes (mainly left) in response to excessive distension of the Heart ventricles
 - ▶ Similar to ANP (Atrial Natriuretic Peptide) but has longer $t_{1/2}$ (~20mins, double that of ANP) Named after extracts found in Pig brain
- ▶ What is NT-proBNP?
 - ▶ NT-proBNP is a biologically inactive 76 amino acid N-terminal fragment
 - ▶ Co-secreted with BNP
 - ▶ Even longer $t_{1/2}$ than BNP (~12hrs vs ~20mins)
- ▶ Biological effects of Cardiac Natriuretic peptides
 - ▶ Increase Natriuresis
 - ▶ Decrease peripheral vascular resistance
 - ▶ Overall reduce blood volume and therefore Cardiac Output

SYNTHESIS IN MYOCYTES

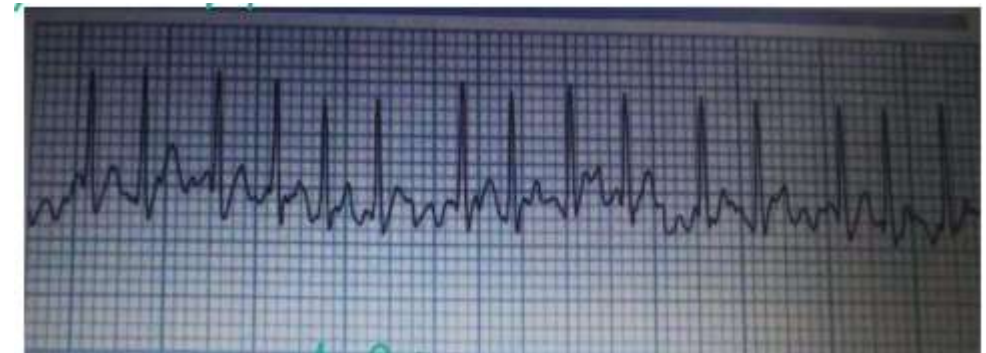
Figure 1: Biology of NT-proBNP and BNP



Slides
36,37

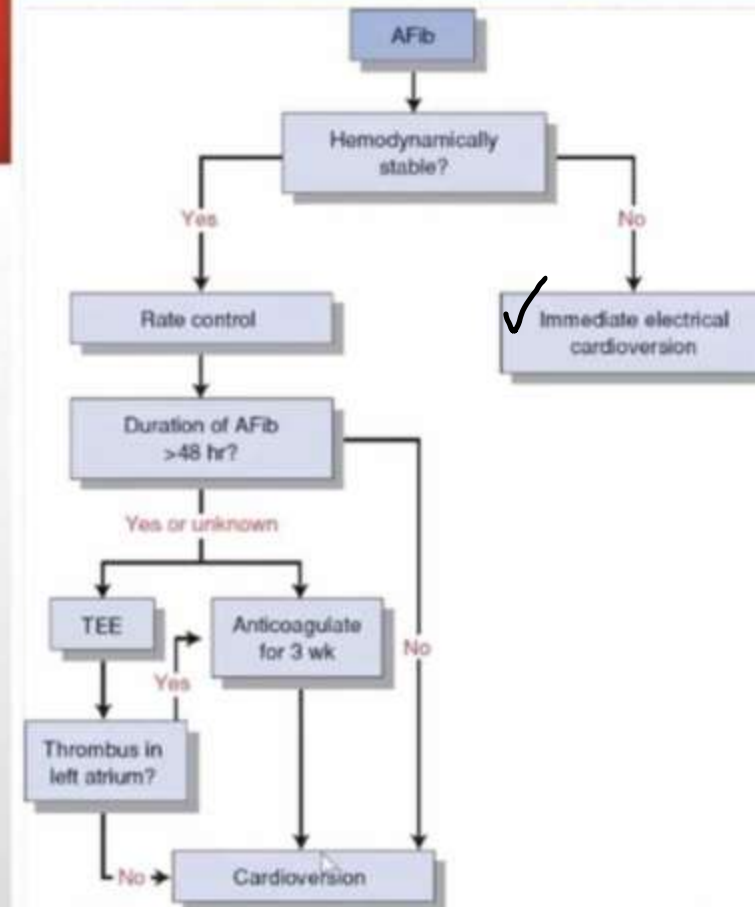
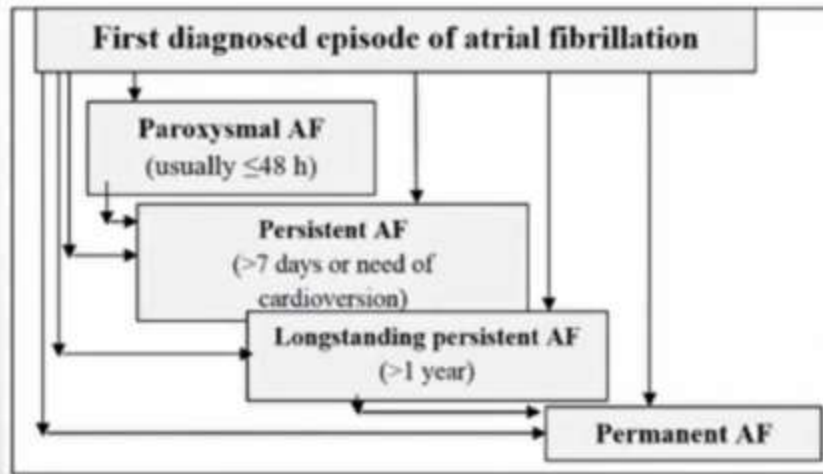
A 63 years old ICU patient, doing well and was planned to be discharged to the floor, suddenly complained of chest pain and became unresponsive. His blood pressure was 75/40 mmHg his ECG showed the attached rhythm. The treatment of choice in this case is:

- a) Digoxin oral administration.
- b) Amiodarone infusion.
- c) Metoprolol intravenous boluses.
- d) Cardioversion that is synchronized.
- e) Adenosine 6,12,12 mgs.



Ans d

Atrial Fibrillation - Pearls



A 56-year-old male comes to your clinic requesting advice after recent cardiac surgery. The patient had a long-standing murmur and was diagnosed with mitral stenosis. He eventually underwent repair with a prosthetic valve and his symptoms of dyspnea have resolved. He has resumed physical activity and seeks to maintain his current health. He wants advice on future procedures and possible risk of infection. Which procedure will you advise warrants such treatment solely for endocarditis prophylaxis?

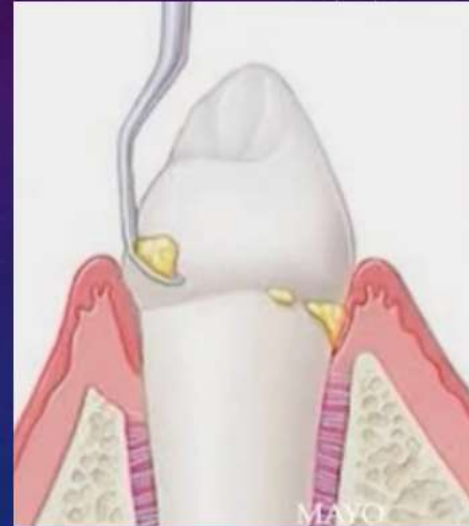
- a) Colonoscopy.
- b) Wisdom tooth extraction.
- c) EGD.
- d) Bronchoscopy without biopsy.
- e) Dilatation ureteral stricture.

Ans b

Infective endocarditis

→ Which procedures require prophylaxis?

- ✓ Dental procedures
 - Manipulation of gingival tissue or root of teeth
 - Perforation of oral mucosa
 - Cleaning, extraction, root canal
- Incision into active skin/soft tissue infection
- Incision or biopsy in respiratory tract
 - Tonsillectomy/adenoidectomy
 - Bronchoscopy with biopsy



A 60-year-old patient, presented with sudden severe right leg pain of 1-hour duration. On examination: right leg is cold with no palpable pulses. Which of the following is the least possible cause?

- a) Sick sinus syndrome.
- b) Paroxysmal atrial fibrillation.
- c) Constrictive pericarditis.
- d) Infective endocarditis.
- e) Anterior myocardial infarction.

Ans c

Unilateral leg pain is a sign of DVT all options cause embolism and c is the only one that does not cause embolism

Picture from amboss.

Deep vein thrombosis

Summary

Definitions

Etiology

Pathophysiology

Clinical features

Deep vein thrombosis may be asymptomatic.



✓ Localized unilateral symptoms

- Typically affects deep veins of the legs, thighs, or pelvis
- **Swelling**, feeling of tightness or heaviness
- **Warmth, erythema**, and possibly livid discoloration
- Progressive tenderness, **dull pain**
 - **Homans sign**: calf pain on dorsal flexion of the foot
 - **Meyer sign**: Compression of the calf causes pain.
 - **Payr sign**: pain when pressure is applied over the medial part of the

You have been treating a 75-year-old man for hypertension for the last 20 years. He

frequently misses medication doses, and his blood pressure is rarely well controlled. In the

office today, his blood pressure is 165/90. He states that he feels well. Which of the following

would you expect on his physical exam?

- a) Basilar crackles in the lung fields.
- b) S4 gallop and a left ventricular heave.
- c) S4 gallop and a right ventricular heave.
- d) S3 gallop and a left ventricular heave.
- e) Papilledema.

Ans b

Couldn't find an explanation from lectures or slides.

A 60-year-old man with hypertension and continued tobacco use visits your office for a physical. Initial labs reveal a total cholesterol of 340, LDL of 210, and HDL of 35. What would you recommend to lower his cholesterol?

- a) Start diet therapy.
- b) Start diet therapy and an exercise program.
- c) Start diet therapy, an exercise program, and a statin.
- d) Repeat the labs to confirm the cholesterol measurement and then start diet therapy.
- e) Repeat the labs to confirm the cholesterol measurement and then start medication

Ans c

Source:
amboss

× Lipid disorders ☆ ⋮

CLINICAL SCIENCE CLINICIAN

Lipid disorders

Summary

Definitions

- **Dyslipidemia**: an abnormal concentration of lipids in the blood (e.g., high or low LDL cholesterol)
- **Hyperlipidemia**: elevated blood lipid levels (e.g., total cholesterol, LDL cholesterol, and/or triglycerides)
- ✓ **Hypercholesterolemia**: elevated total cholesterol levels > 200 mg/dL
 - **Hyperlipoproteinemia**: elevated levels of serum lipoproteins (e.g. high VLDL)
 - **Hypertriglyceridemia**: elevated triglyceride levels > 150 mg/dL

FEEDBACK

✎ Your notes

🔍 Shared Notes [Manage](#)

Epidemiology

Etiology

< > ⋮ 🔍 📄
Back Forward Collapse Find text Outline

× Lipid disorders ☆ ⋮

LDL cholesterol and triglyceride elevations. For non-severe hyperlipidemia, treatment is based on the calculated ASCVD risk. 💬

Approach [17][1]

- ✓ Encourage lifestyle modifications for ASCVD prevention for all patients, including:
 - ✓ Physical activity
 - ✓ Dietary modifications
- Mitigate secondary causes of hyperlipidemia.
 - Limit alcohol use.
 - Manage associated medical conditions, e.g., diabetes mellitus.
 - Avoid medications that increase triglyceride or cholesterol levels.
- Initiate pharmacotherapy based on the type and severity of dyslipidemia.
- Consult a lipid specialist for patients with:
 - Inherited hyperlipoproteinemias
 - Statin intolerance
 - Persistent hypercholesterolemia, e.g., for treatment with LDL apheresis [17]

< > ⋮ 🔍 📄
Back Forward Collapse Find text Outline

Pharmacotherapy

Very high LDL cholesterol [17][28][29]

- **Indication**: LDL cholesterol ≥ 190 mg/dL in adults 20–75 years of age 💬 [17]
- **Goals**
 - ≥ 50% reduction in LDL cholesterol levels from baseline (with maximally tolerated statin therapy)
 - LDL cholesterol targets vary, e.g.:
 - < 100 mg/dL if 20–75 years of age, regardless of etiology or ASCVD risk [17]
 - < 70 mg/dL if 30–75 years of age with both heterozygous familial hypercholesterolemia and established ASCVD 💬 [30][31]
- ✓ **First-line agents**: high-intensity statin therapy, e.g., atorvastatin or rosuvastatin [17]
- **Subsequent treatment**
 - Consider adding nonstatin lipid-lowering agents sequentially if treatment goals are not met, e.g.:
 - Ezetimibe [17]

< > ⋮ 🔍 📄
Back Forward Collapse Find text Outline

The best method to treat a collapsed patient in anaphylactic shock is:

- a) Intubation
- b) Intravenous adrenaline
- c) Albuterol as a bronchodilator
- d) Antihistamines
- e) High dose of steroids

Ans d

according to amboss it's b
epinephrine (adrenaline)

×

Anaphylaxis

☆

⋮

- Aggressive fluid resuscitation if hypotension present
 - Position the patient supine.
- If anaphylaxis is likely, start initial treatment immediately: [2][4][7]
 - Remove inciting allergen
 - ✓ Administer epinephrine IM 1:1,000 (1 mg/mL) into the anterolateral thigh
 - See "Anaphylactic transfusion reactions" for specific considerations in patients with reactions during or up to 3 hours after transfusion of blood products.
- ✓ Once stabilized, consider adjunctive therapy with antihistamines, corticosteroids (e.g., methylprednisolone)
- Continuous reassessment and subsequent management

1

The most important measures in anaphylaxis are to remove the inciting allergen and administer epinephrine as soon as possible. Delay can lead to airway compromise, respiratory failure, refractory shock, and death.

<

>

⌵

🔍

📖

Back

Forward

Collapse

Find text

Outline

What is the condition that is associated with the highest risk of developing infective endocarditis?

- a. Severe aortic regurgitation.
- b. Mitral regurgitation.
- c. Rheumatic fever with valvular heart disease.
- d. Mitral valve prolapse.
- e. Prosthetic valve.

Ans e

Infective endocarditis

Which patients?

Patients at highest risk for complications

- Prosthetic cardiac valves
- Transcatheter valves
- Prosthetic material used for valve repair
- Previous infective endocarditis
- Transplant recipients with valvulopathy
- Congenital heart disease AND:
 - Unrepaired cyanotic lesions
 - Cyanotic lesions with palliative shunts or conduits
 - Repair ≤ 6 months ago with prosthetic material
 - Repaired lesions with residual defects



A 32-year-female was noted to have mild reduction in exercise capacity over the past 6 to 12 months. On physical examination, the blood pressure is 100/70 mm Hg and the pulse is 68/min and regular. The apical impulse is not displaced. The S1 is normal. The S2 is split throughout the respiratory cycle. A grade 2/6 midsystolic murmur is noted at the second left intercostal space. There is a grade 2/6 diastolic rumble noted at the lower left sternal border. Both murmurs increase with inspiration. The remaining findings on physical examination are unremarkable. An electrocardiogram demonstrates normal sinus rhythm with right axis deviation and normal intervals. Which of the following is the most likely diagnosis in this patient?

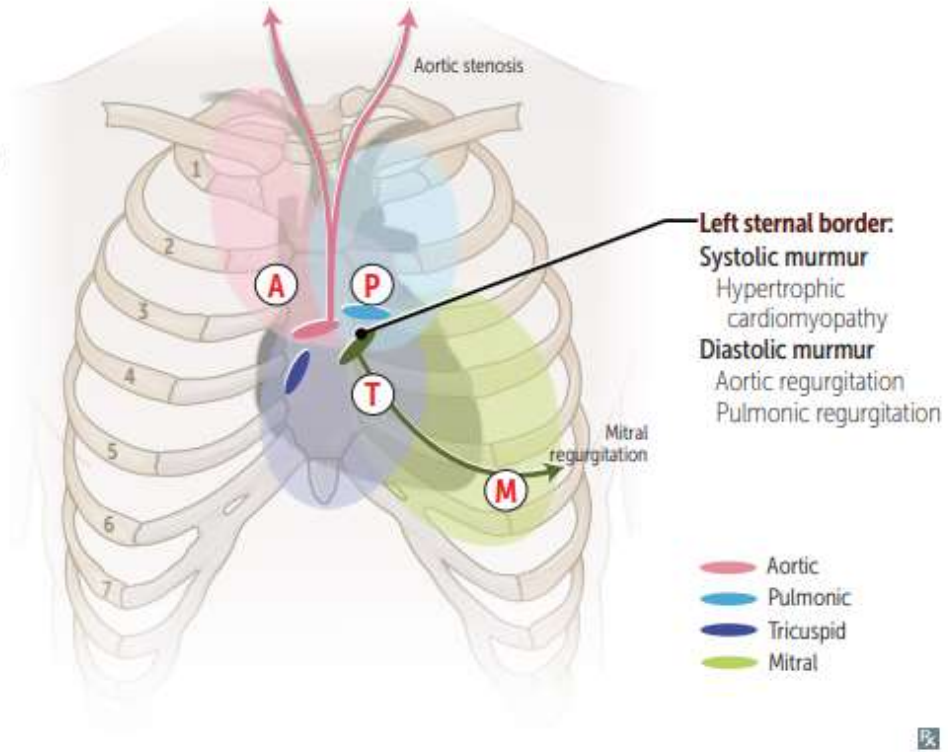
- a. Left atrial myxoma
- b. Mitral stenosis.
- c. Atrial septal defect
- d. Hypertrophic cardiomyopathy
- e. Pulmonary artery hypertension

Ans c

Auscultation of the heart

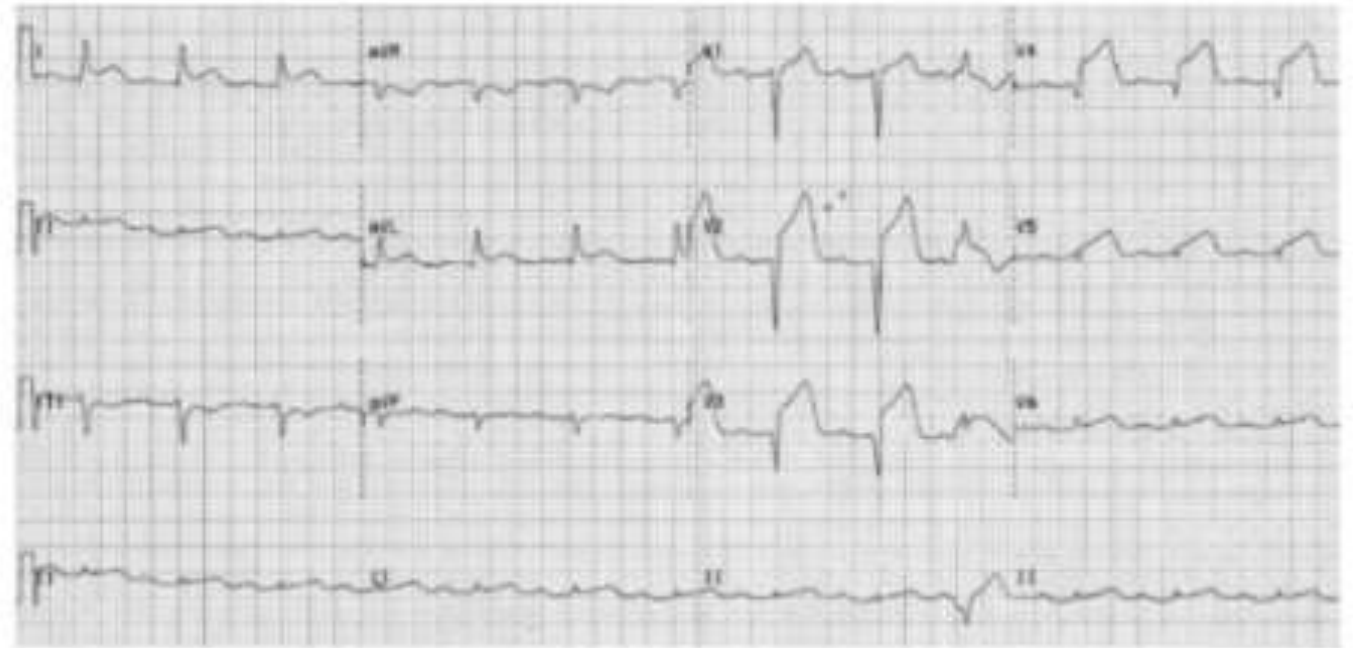
Where to listen: **APT M**

- (A) Aortic area:**
 - Systolic murmur
 - Aortic stenosis
 - Flow murmur (eg, physiologic murmur)
 - Aortic valve sclerosis
- (P) Pulmonic area:**
 - Systolic ejection murmur
 - Pulmonic stenosis
 - Atrial septal defect
 - Flow murmur
- (T) Tricuspid area:**
 - Holosystolic murmur
 - Tricuspid regurgitation
 - Ventricular septal defect
 - Diastolic murmur
 - Tricuspid stenosis
- (M) Mitral area (apex):**
 - Systolic murmur
 - Mitral regurgitation
 - Mitral valve prolapse
 - Diastolic murmur
 - Mitral stenosis



A 59 Years old male patient who is known to have Diabetes and hypertension presented with four hours history of retrosternal chest pain associated with nausea and vomiting, his ECG is shown below. What is your diagnosis?

- a. Posterior MI
- b. Anterior MI
- c. Inferior MI
- d. Interoposterior MI
- e. Pericarditis



Ans b

St elevation in v1-v4

Risk Factors for Cardiovascular Disease

Modifiable

- Hypertension
- Smoking
- Hyperlipidaemia
- Raised LDL-C
- Low HDL-C
- Raised triglycerides
- ✓ Diabetes mellitus
- Dietary factors
- Lack of exercise
- Obesity
- Homocysteinaemia
- Lipoproteins
- Gout
- Thrombogenic factors: fibrinogen, factors V, VII
- Excess alcohol consumption

Non-modifiable

- Personal history of CVD
- Family history of CVD
- Age: M > 45, F > 55
- Gender: M > F (Perimenopausal)
- Personality type A
- Genetic factors: ACE gene

Case presentation

A 50 year old male presented to emergency room complaining of sudden severe chest pain of 1 hour duration. It is retrosternal, compressive, and radiated to left shoulder and arm.

Associated with sweating, (nausea and vomiting)

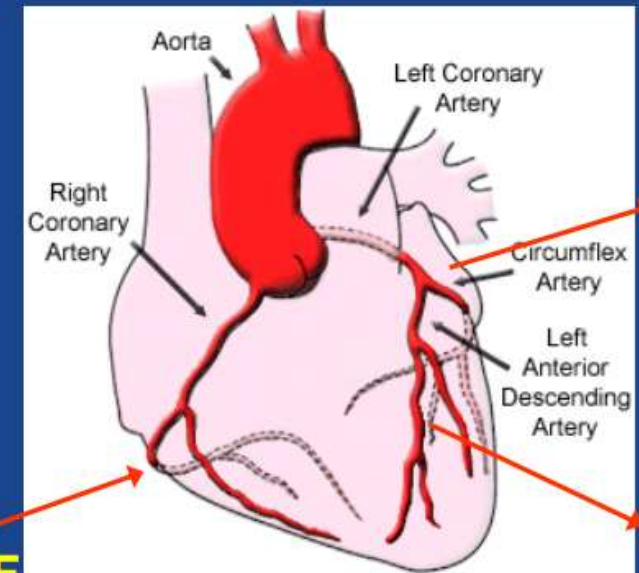
On examination: patient is anxious, in pain, sweaty.

BP: 100/60. PULSE: 120 BPM, RR: 26/min

Chest: basal crepitations

The most likely diagnosis is (Myocardial infarction)

Regions of the Myocardium

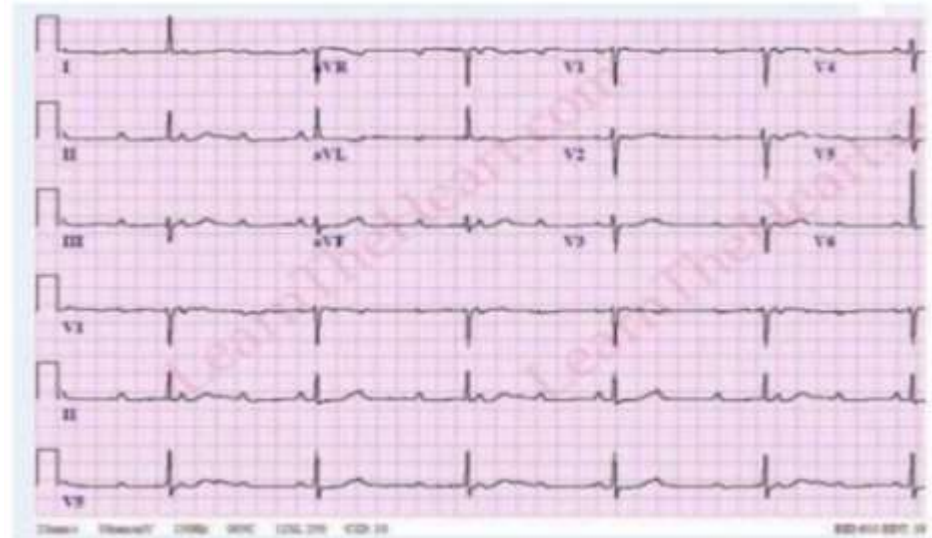


**Lateral
I, AVL,
V5-V6**

**Anterior /
Septal
V1-V4**

**Inferior
II, III, aVF**

- a. Sinus rhythm with frequent Premature atrial contraction
- b. Sinus bradycardia
- c. Atrial fibrillation.
- d. Third degree AV nodal block
- e. Second degree AV block



Ans d

Atrio-Ventricular (AV) Block

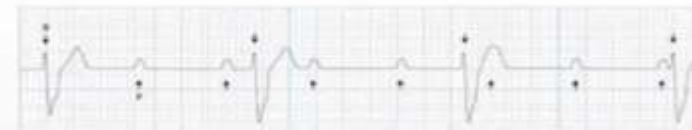
- 3rd Degree AV Block

- ✓ P > QRS

- ✓ AV Dissociation

- Management:

- Medical Emergency
 - Emergent Pacer placement



A 23 years old female college student presented with two hours history of palpitation and dyspnea, on evaluation in the emergency room her blood pressure 110/70mmHg, HR 160BPM. The rest of her examination is normal. Her ECG is shown below. What is the best management at this time:

- a. IV Diltizem
- b. IV Adenosine
- c. IV Metoprolol
- d. IV Digoxin
- e. IV Amiodarone



Ans e

Ecg shows arrhythmia

**Antiarrhythmics—
potassium channel
blockers (class III)**

Amiodarone, Ibutilide, Dofetilide, Sotalol.

AIDS.

MECHANISM

↑ AP duration, ↑ ERP, ↑ QT interval.

CLINICAL USE

Atrial fibrillation, atrial flutter; ventricular tachycardia (amiodarone, sotalol).

ADVERSE EFFECTS

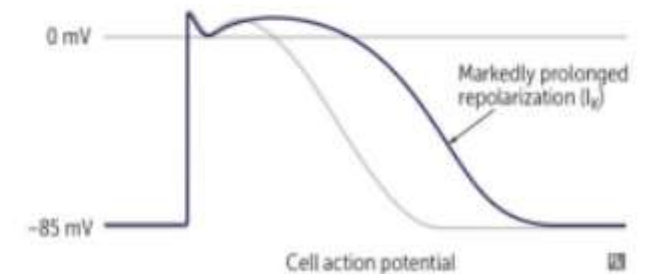
Sotalol—torsades de pointes, excessive β blockade.

Ibutilide—torsades de pointes.

Amiodarone—pulmonary fibrosis, hepatotoxicity, hypothyroidism or hyperthyroidism (amiodarone is 40% iodine by weight), acts as hapten (corneal deposits, blue/gray skin deposits resulting in photodermatitis), neurologic effects, constipation, cardiovascular effects (bradycardia, heart block, HF).

Remember to check PFTs, LFTs, and TFTs when using amiodarone.

Amiodarone is lipophilic and has class I, II, III, and IV effects.



The first ring in the chain of survival indicates:

- a. Starting chest compression after confirmation of cardiac arrest
- b. Delivery of DC shock for the patient
- c. Intensive care unit admission
- d. Calling the cardiac arrest team
- e. Recognition of patients at risk of developing cardiac arrest

Ans e

The dose of adrenaline during CPR is:

- a. 2 mgs every 2 minutes
- b. 2 mgs after every third cycle
- c. 1 mg every one minute
- d. 1 mg every 10 minutes
- e. 1 mg after every second cycle

Ans e

Wrong about constrictive pericarditis

Answer: Pulsus alternans

Constrictive Pericarditis

- Dyspnea
- Fatigue
- JVD
- Hepatomegaly and ascites
- Edema
- Neck veins distend with inspiration (Kussmaul's sign)
- Pericardial knock (early diastolic sound)
- Afib in 20%

Causes:

- Cardiac surgery
- Viral infection
- Acute pericarditis
- Mediastinal irradiation
- Rheumatoid arthritis, CTD

Patient with stable angina, not a factor that increases risk of adverse event:

Answer: high HDL

Risk Factors for Cardiovascular Disease

Modifiable

- Hypertension
- Smoking
- Hyperlipidaemia
 - Raised LDL-C
 - Low HDL-C
 - Raised triglycerides
- Diabetes mellitus
- Dietary factors
- Lack of exercise
- Obesity
- Homocysteinemia
- Lipoprotein a
- Gout
- Thrombogenic factors: fibrinogen, factors V, VII
- Excess alcohol consumption

Non-modifiable

- Personal history of CVD
- Family history of CVD
- Age: M>45, F>55
- Gender M>F (Premenopausal)
- Personality type A
- Genetic factors: ACE gene

Not a component of the metabolic syndrome:
Answer: LDL > 130

Obesity and metaboli...

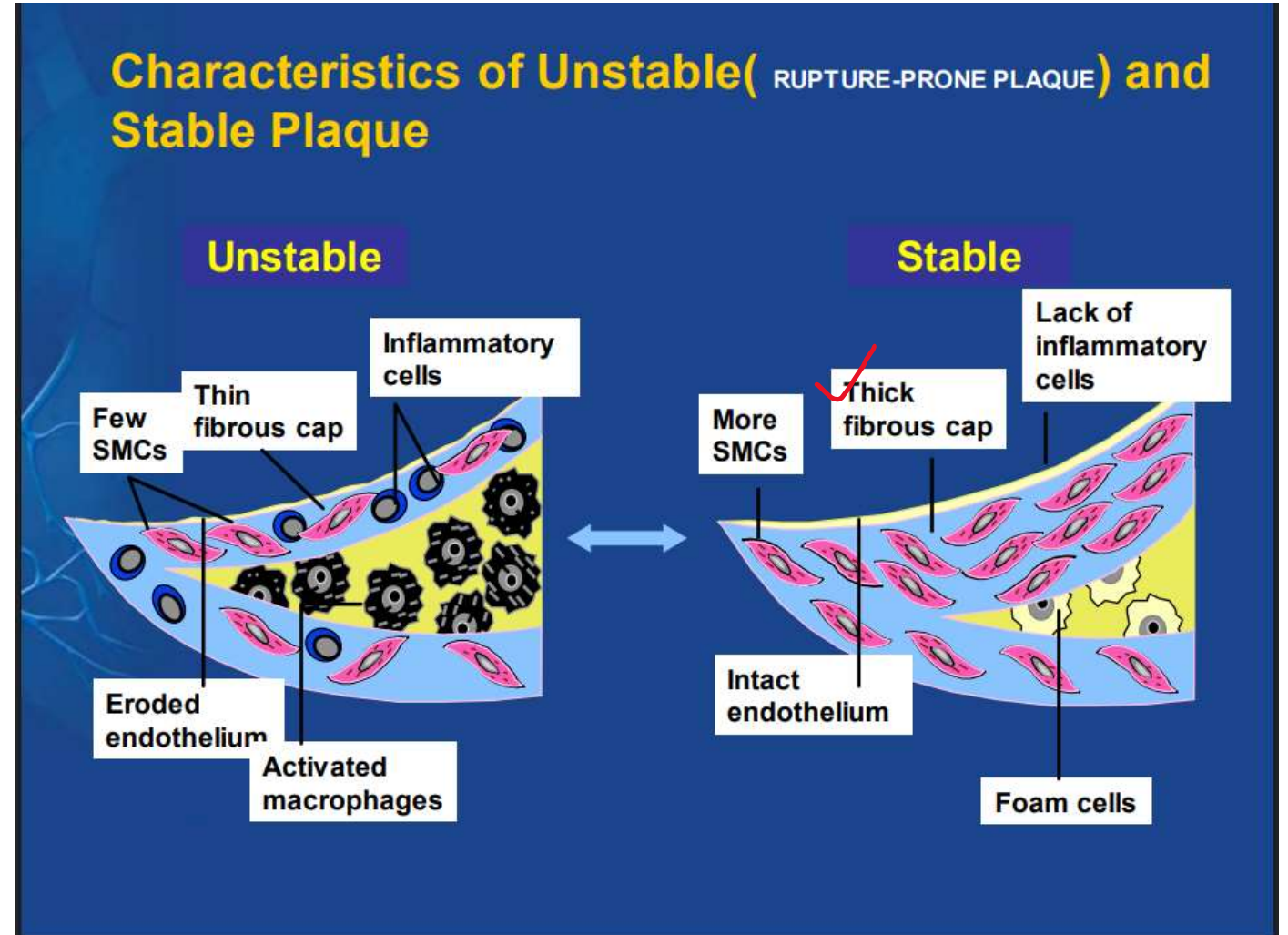
Metabolic syndrome [1]

- **Definition:** a constellation of medical conditions that commonly manifest together and significantly increase the risk for cardiovascular disease and type 2 diabetes mellitus
- **Criteria for metabolic syndrome:** ≥ 3 must be present (i.e., the patient is either diagnosed with or receiving treatment for the condition)
 - **Elevated blood glucose:** fasting glucose ≥ 100 mg/dL
 - **Elevated blood pressure:** systolic ≥ 130 mmHg and/or diastolic ≥ 85 mm Hg
 - **Elevated triglycerides:** ≥ 150 mg/dL
 - **Low HDL-C**
 - Men: < 40 mg/dL
 - Women: < 50 mg/dL
 - **Abdominal obesity [2]**
 - Men: waist circumference ≥ 102 cm or > 40 in
 - Women: waist circumference ≥ 88 cm or > 35 in

A character that makes the atheromatous plaque less likely to cause ACS:

Answer: high smooth cells

Thick fibrous cap means
high smooth muscle cells



Not a drug that reduces mortality in a patient with congestive heart failure:

Answer: Furosemide

2021 ESC HF GUIDELINES RECOMMENDATIONS FOR THE MANAGEMENT OF PATIENTS WITH HFrEF		
Management of patients with HFrEF ¹		
Pharmacological treatments indicated in patients with HFrEF (LVEF ≤40%, NYHA class II–IV)		
Recommendations	Class of recommendation	Level of evidence
An ACEi is recommended for patients with HFrEF to reduce the risk of HF hospitalization and death	I	A
A BB is recommended for patients with stable HFrEF to reduce the risk of HF hospitalization and death	I	A
An MRA is recommended for patients with HFrEF to reduce the risk of HF hospitalization and death	I	A
Dapagliflozin / empagliflozin are recommended for patients with HFrEF to reduce the risk of HF hospitalization and death	I	A
Sacubitril/valsartan is recommended as a replacement for an ACEi in patients with HFrEF to reduce the risk of HF hospitalization and death	I	B

Least likely to cause systolic dysfunction:

Answer: severe mitral stenosis

Least likely to cause atrial fibrillation:

Answer: hypothyroidism (mostly)

This question is strange as thyroid diseases causes afib.

Atrial Fibrillation

- Causes:
 - Heart disease: CAD, MI, HTN, mitral valve disease
 - History of cardiac surgery
 - Pericarditis
 - Pulmonary disease (PE, COPD, Hypoxia)
 - Thyroid disease
 - Pheochromocytoma
 - Systemic illness (e.g. Infection,)
 - Stress (postoperative, pain, anxiety)
 - Hyperadrenergic states
 - Cocaine or methamphetamine use
 - Extremes of activity (sedentary lifestyle, excess exercise such as marathon running)
 - Excessive alcohol intake ("holiday heart syndrome")

A patient receiving doxorubicin for their osteosarcoma, their heart failure grade is:

Answer: A

According to O20 explanation doxorubicin might cause a dilated cardiac muscle

(up to 9% of the cancer patients treated

with this drug develop heart failure at a later stage.)(1)

CLASSIFICATION OF HEART FAILURE

Based on the LVEF

Based on the Functional Status

Based on Clinical Progression

Based on Hemodynamic Class

- ACCF-AHA 2013 guidelines classify patients with HF based on the development and progression of HF
- **These stages provide complementary information to the NYHA classification regarding the severity of HF**

Stages of HF	Development and progression of HF	Corresponding NYHA Class
A	At high risk for HF but without structural heart disease or symptoms of HF	None
B	Structural heart disease but without signs or symptoms of HF	I
C	Structural heart disease with prior or current symptoms of HF	I
		II
		III
D	Refractory HF requiring specialized interventions	IV

(1) <https://www.nature.com/articles/s41514-024-00135-7#:~:text=However%2C%20cancer%20therapies%20often%20have,failure%20at%20a%20later%20stage.>

7#:~:text=However%2C%20cancer%20therapies%20often%20have,failure%20at%20a%20later%20stage.

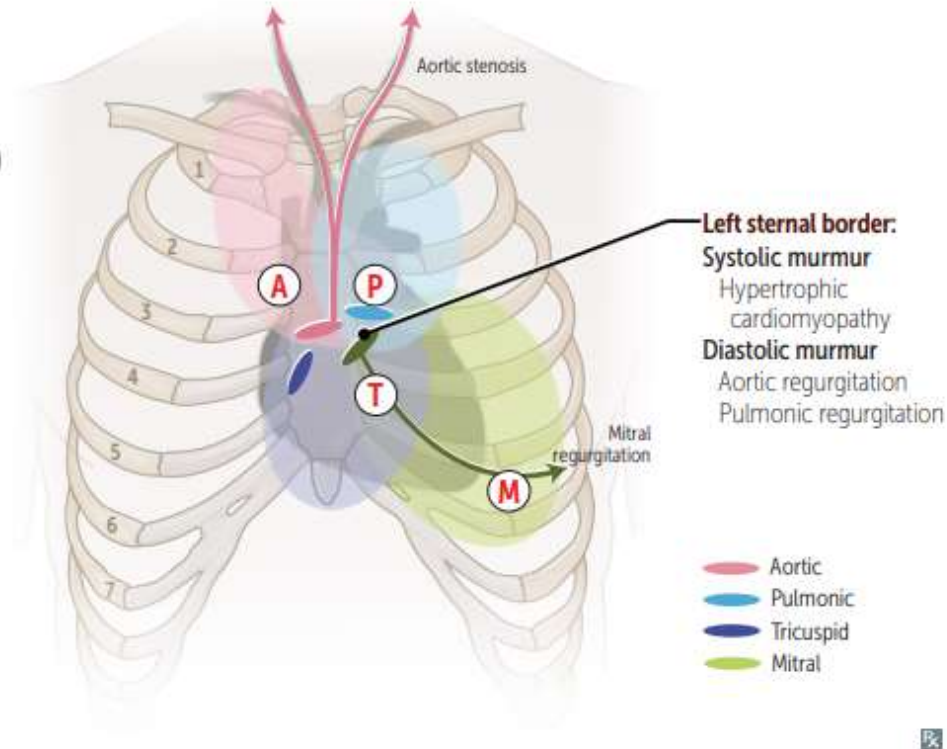
A patient with left upper sternal border systolic murmur, ejection click, single S2 and a parasternal lift, most likely caused by:

Answer: pulmonic stenosis

Auscultation of the heart

Where to listen: **APT M**

- (A) Aortic area:**
 - Systolic murmur
 - Aortic stenosis
 - Flow murmur (eg, physiologic murmur)
 - Aortic valve sclerosis
- (P) Pulmonic area:**
 - Systolic ejection murmur
 - Pulmonic stenosis
 - Atrial septal defect
 - Flow murmur
- (T) Tricuspid area:**
 - Holosystolic murmur
 - Tricuspid regurgitation
 - Ventricular septal defect
 - Diastolic murmur
 - Tricuspid stenosis
- (M) Mitral area (apex):**
 - Systolic murmur
 - Mitral regurgitation
 - Mitral valve prolapse
 - Diastolic murmur
 - Mitral stenosis



A patient with a systolic murmur that increases with standing and valsalva, and decreases with squatting, most likely cause:

Answer: hypertrophic obstructive cardiomyopathy

PHYSICAL EXAM

Bisferiens pulse (“spike and dome”)

S4 gallop

Crescendo/Decrescendo systolic ejection murmur







HOCM vs. Valvular AS

	<u>Intensity of murmur</u>	
	<u>HOCM</u>	<u>AS</u>
✓ Valsalva (↓preload, ↓ afterload)	↑	↓
✓ Squatting (↑ preload, ↑ afterload)	↓	↑
✓ Standing (↓preload, ↓ afterload)	↑	↓

Holosystolic apical blowing murmur of mitral regurgitation

Thiazide does not cause:

Answer: hypouricemia

DIURETICS: THE FACTS		
 Mechanism of action	 Indication	 Types & brands
Thiazide diuretics - inhibit the reabsorption of sodium in the kidney's distal convoluted tubule Loop diuretics - inhibit absorption from the kidney's loop of Henle	Patients with HF who are deemed to have fluid overload	1. Bendroflumethiazide (thiazide) (Aprinox®, Neo-Naclex®)* 2. Chlortalidone (thiazide-related) (Hygroton®)** 3. Furosemide (loop) (Rusyd®, Frusol®)* 4. Bendroflumethiazide (loop)(Torem®)*
 Dosage	 Risks	 Key trials
Bendroflumethiazide: 5-10 mg daily Chlortalidone: 25-30 mg daily Furosemide: 40 mg mg daily Bendroflumethiazide: 5 mg daily	Both types of diuretics associated with mild gastrointestinal side effects, postural hypotension, metabolic and electrolyte disturbances, blood disorders	Paucity of trial evidence for the efficacy of diuretics in HF. They are recommended for their beneficial effects on dyspnoea and oedema

*A non-proprietary drug is available

Blood pressure 135/92, stage of HTN is:

Answer: stage 1

Hypertension Guidelines History



BLOOD PRESSURE CATEGORY	SYSTOLIC mm Hg (upper number)		DIASTOLIC mm Hg (lower number)
NORMAL	LESS THAN 120	and	LESS THAN 80
ELEVATED	120 – 129	and	LESS THAN 80
HIGH BLOOD PRESSURE (HYPERTENSION) STAGE 1	130 – 139	or	80 – 89
HIGH BLOOD PRESSURE (HYPERTENSION) STAGE 2	140 OR HIGHER	or	90 OR HIGHER
HYPERTENSIVE CRISIS (seek medical attention immediately)	HIGHER THAN 180	and/or	HIGHER THAN 120

Hypertension disease staging	Other risk factors, HMOD, or disease	BP (mmHg) grading			
		High normal SBP 130-139 DBP 85-89	Grade 1 SBP 140-159 DBP 90-99	Grade 2 SBP 160-179 DBP 100-109	Grade 3 SBP ≥180 or DBP ≥110
Stage 1 (uncomplicated)	No other risk factors	Low risk	Low risk	Moderate risk	High risk
	1 or 2 risk factors	Low risk	Moderate risk	Moderate to high risk	High risk
	≥3 risk factors	Low to Moderate risk	Moderate to high risk	High risk	High risk
Stage 2 (asymptomatic disease)	HMOD, CKD grade 3, or diabetes mellitus without organ damage	Moderate to high risk	High risk	High risk	High to very high risk
Stage 3 (established disease)	Established CVD, CKD grade ≥4, or diabetes mellitus with organ damage	Very high risk	Very high risk	Very high risk	Very high risk

A patient with hypertension, most likely cause of death is:

Answer: CAD (mostly)

A patient on sildenafil, contraindicated drug:

Answer: nitrate

Sildenafil citrate is contraindicated in patients who may require organic nitrates, such as nitroglycerin patches or sublingual tablets, because the combination may lower blood pressure

Source:

<https://www.ahajournals.org/doi/10.1161/01.cir.102.20.2516#:~:text=Sildenafil%20citrate%20is%20contraindicated%20in,concomitant%20use%20of%20sildenafil%20citrate.>

Next step in helping a gasping, unresponsive patient:

Answer: call 911

Most common cause of HF exacerbation:

Answer: Noncompliance to drugs and medications.

Which of the following signs is associated with constrictive pericarditis?

Answer: High JVP that increases with inspiration (Kussmal sign)

Constrictive Pericarditis

- Dyspnea
- Fatigue
- JVD
- Hepatomegaly and ascites
- Edema
- Neck veins distend with inspiration (Kussmaul's sign)
- Pericardial knock (early diastolic sound)
- Afib in 20%

Causes:

- Cardiac surgery
- Viral infection
- Acute pericarditis
- Mediastinal irradiation
- Rheumatoid arthritis, CTD

True about HOCM?

Answer: Autosomal dominant in 50% of cases

ETIOLOGY

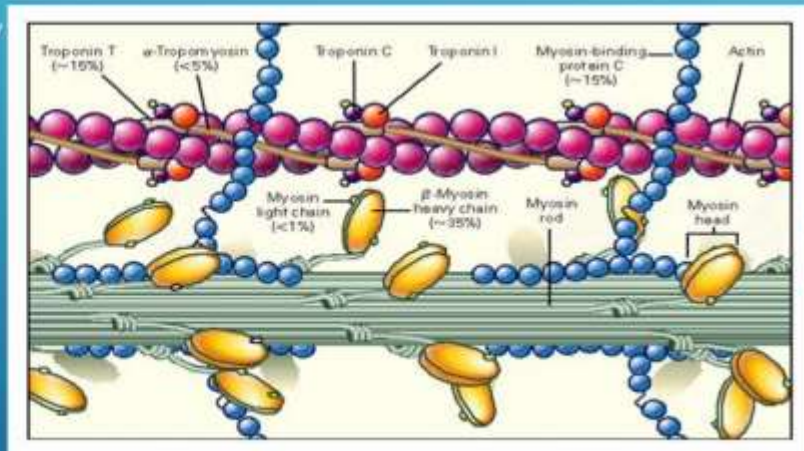
Familial in ~ 55% of cases with autosomal dominant transmission
Mutations in one of 4 genes encoding proteins of cardiac sarcomere
account for majority of familial cases

β -MHC (Beta Myosin Heavy
Chain)

cardiac troponin T

myosin binding protein C

α -tropomyosin



4- Not associated with ST elevation?

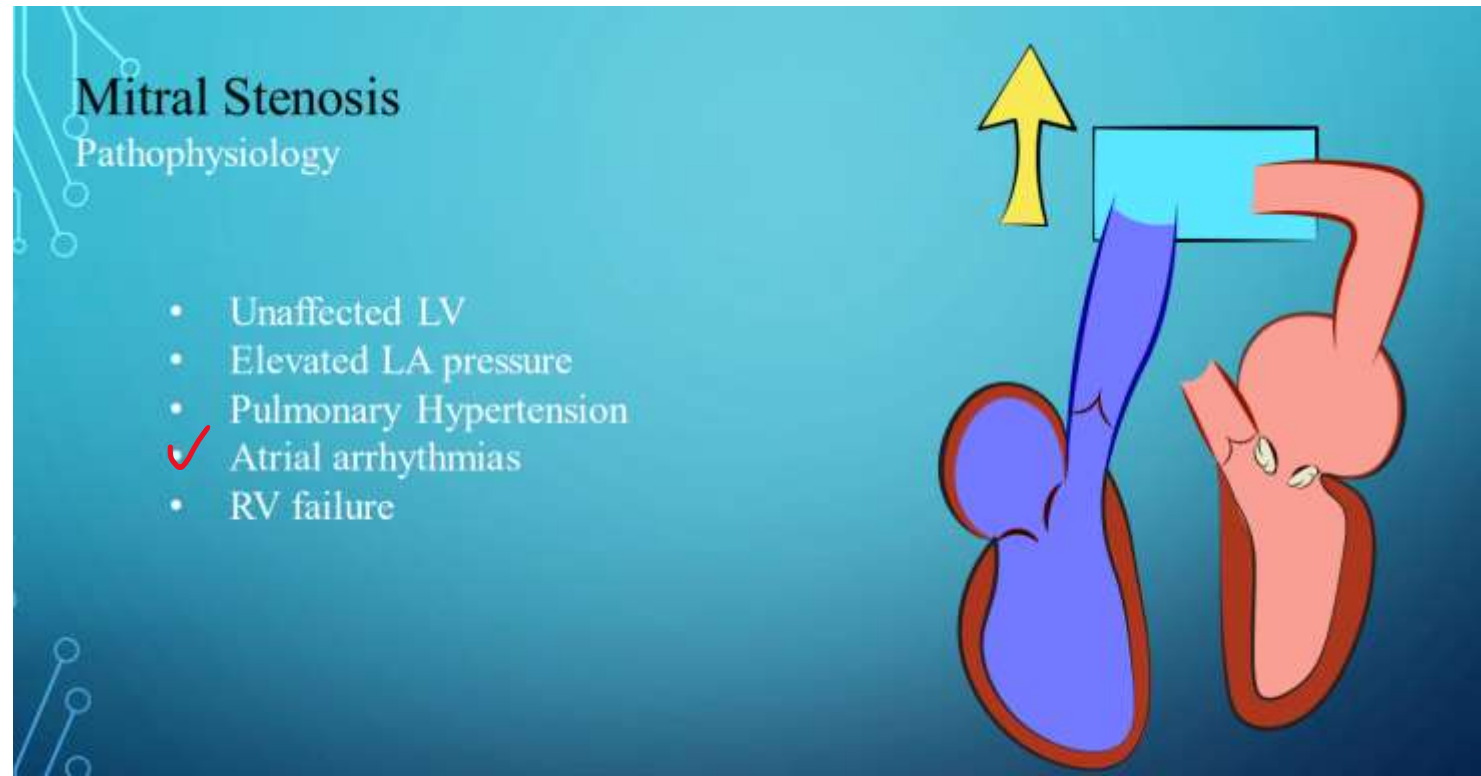
Answer: Constrictive pericarditis

Table 10 Constrictive pericarditis vs. restrictive cardiomyopathy: a brief overview of features for the differential diagnosis (Modified from Imazio et al.³¹)

Diagnostic evaluation	Constrictive pericarditis	Restrictive cardiomyopathy
Physical findings	Kussmaul sign, pericardial knock	Regurgitant murmur, Kussmaul sign may be present, S3 (advanced)
ECG	Low voltages, non-specific ST/T changes, atrial fibrillation	Low voltages, pseudoinfarction, possible widening of QRS, left-axis deviation, atrial fibrillation
Chest X-ray	Pericardial calcifications (1/3 of cases)	No pericardial calcifications
Echocardiography	<ul style="list-style-type: none">• Septal bounce• Pericardial thickening and calcifications• Respiratory variation of the mitral peak E velocity of >25% and variation in the pulmonary venous peak D flow velocity of >20%• Colour M-mode flow propagation velocity (V_{fp}) >45 cm/sec• Tissue Doppler: peak s' >8.0 cm/s	<ul style="list-style-type: none">• Small left ventricle with large atria, possible increased wall thickness• EA ratio >2, short DT• Significant respiratory variations of mitral inflow are absent• Colour M-mode flow propagation velocity (V_{fp}) <45 cm/sec• Tissue Doppler: peak s' <8.0 cm/s
Cardiac Catheterization	'Dip and plateau' or 'square root' sign, right ventricular diastolic and left ventricular diastolic pressures usually equal, ventricular interdependence (i.e. assessed by the systolic area index >1.1)'	Marked right ventricular systolic hypertension (>50 mmHg) and left ventricular diastolic pressure exceeds right ventricular diastolic pressure (LVEDP >RVEDP) at rest or during exercise by 5 mmHg or more (RVEDP <1/3 RVSP)
CT/MRI	Pericardial thickness >3-4 mm, pericardial calcifications (CT), ventricular interdependence (real-time cine MRI)	Normal pericardial thickness (<3.0 mm), myocardial involvement by morphology and functional study (CMR)

A case of mitral stenosis (diastolic murmur with opening snap), which is true?

Answer: Atrial fibrillation is commonly associated with it.



Patient with DM and HTN, both controlled, what to do?

Answer: Measure urine albumin


020 explanation (we don't give ACEI or ARB to diabetics unless they have diabetic nephropathy).

Patient with bilateral lower limb edema and high JVP, most likely cause?

Answer: Right-sided heart failure

SYMPTOMS


LEFT SIDED ♥ FAILURE

- Paroxysmal Nocturnal Dyspnea
 - Elevated Pulmonary Capillary Wedge Pressure
 - Pulmonary Congestion
 - Cough
 - Crackles
 - Wheezes
 - Blood-Tinged Sputum
 - Tachypnea
 - Restlessness
 - Confusion
 - Orthopnea
 - Tachycardia
 - Exertional Dyspnea
 - Fatigue
 - Cyanosis
- 

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RIGHT SIDED ♥ FAILURE

(Cor Pulmonale)

- Fatigue
 - ↑ Peripheral Venous Pressure
 - Ascites
 - Enlarged Liver & Spleen
 - May be secondary to chronic pulmonary problems
 - Distended Jugular Veins
 - Anorexia & Complaints of GI Distress
 - Weight Gain
 - Dependent Edema
- 

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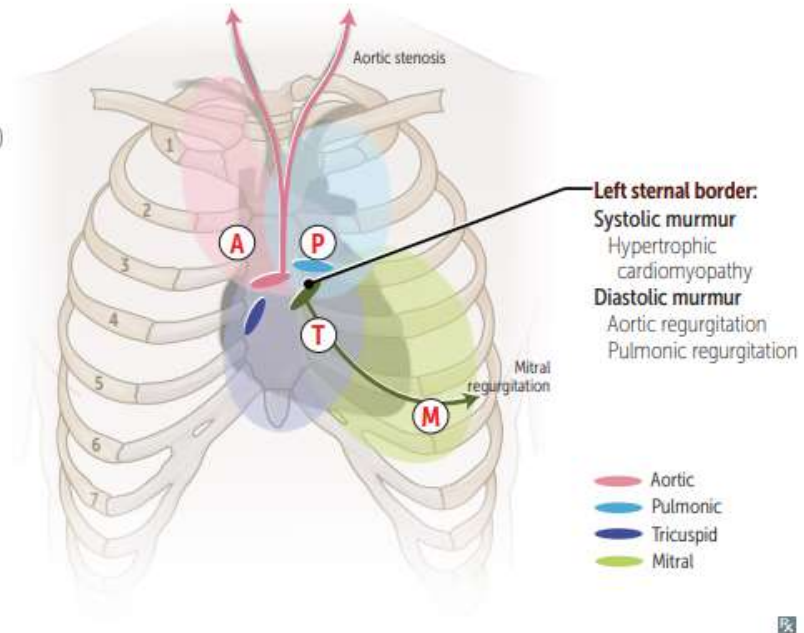
Systolic murmur, heard best at left sternal border 2nd intercostal space, with ejection click is:

Answer: Pulmonic stenosis

Auscultation of the heart

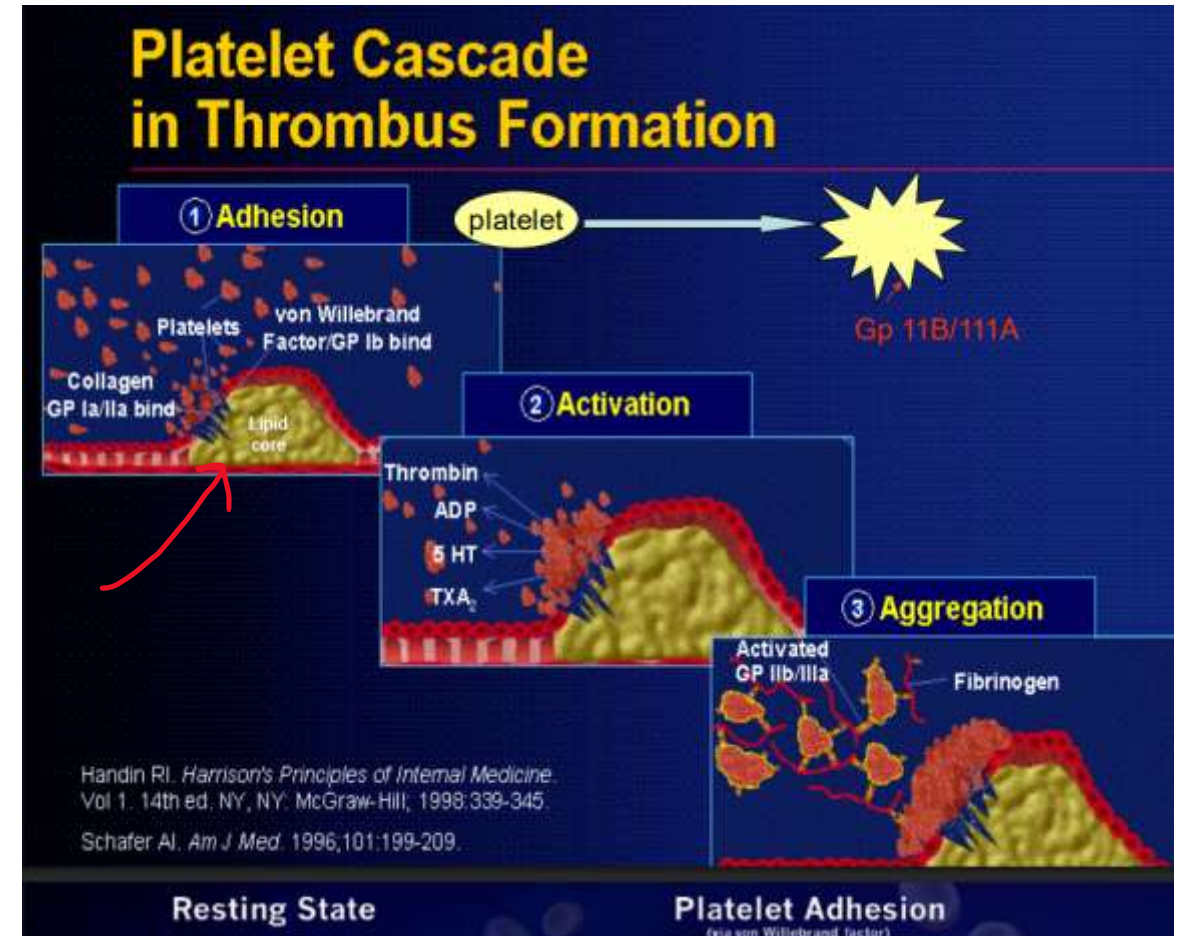
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 - (eg. physiologic murmur)
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 - Flow murmur
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 - Tricuspid stenosis
- (M) Mitral area (apex):**
 - Systolic murmur
 - Mitral regurgitation
 - Mitral valve prolapse
 - Diastolic murmur**
 - Mitral stenosis



Feature of vulnerable plaque?

Answer: Large lipid core
(causes plaque rupture)



A prognostic factor for mortality post-MI:

Answer: diabetes (most likely)

A patient with DM and HTN but no other cardiac symptoms, which stage of HF?

Answer: Stage A

CLASSIFICATION OF HEART FAILURE

Based on the LVEF

Based on the Functional Status

Based on Clinical Progression

Based on Hemodynamic Data

- ACCF-AHA 2013 guidelines classify patients with HF based on the development and progression of HF
- **These stages provide complementary information to the NYHA classification regarding the severity of HF**

Stages of HF	Development and progression of HF	Corresponding NYHA Class
A	At high risk for HF but without structural heart disease or symptoms of HF	None
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C	Structural heart disease with prior or current symptoms of HF	I
		II
		III
D	Refractory HF requiring specialized interventions	IV

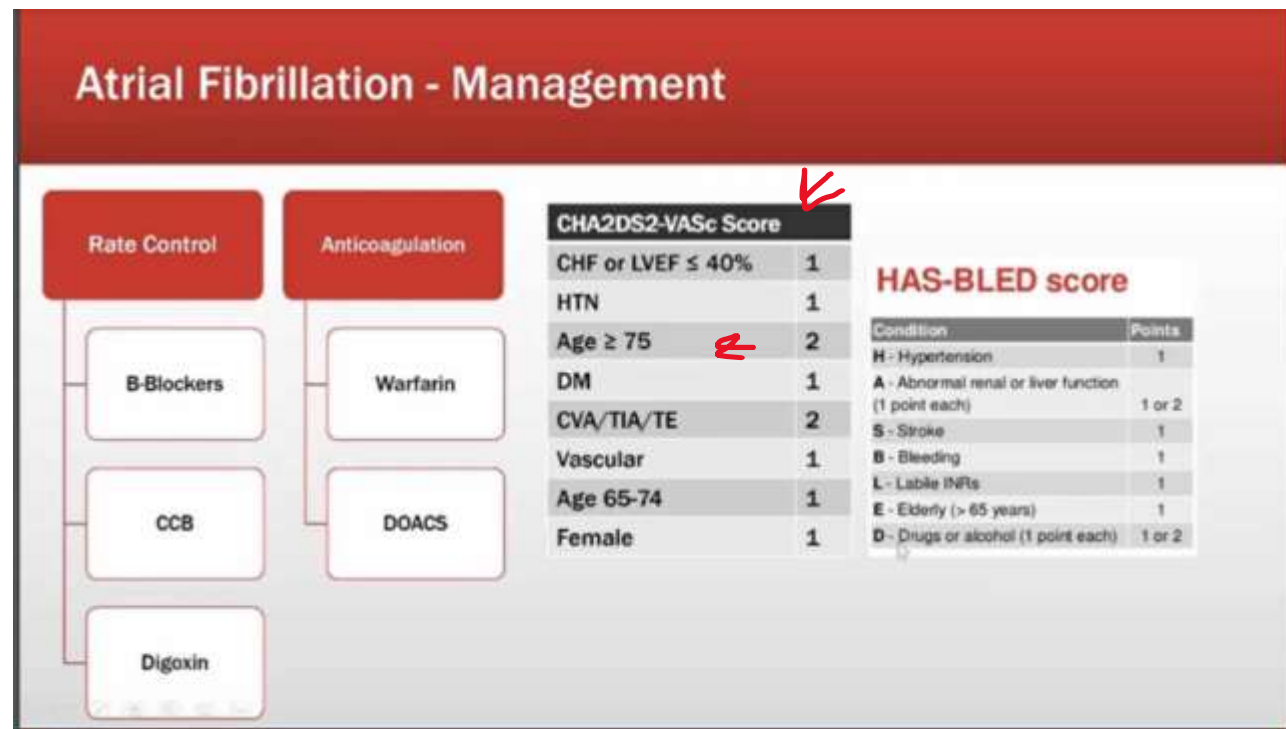
Patient with typical chest pain, in the last 2 weeks, normal ECG, Dx?

Answer: Unstable angina

According to 020 it's a new-onset angina that's why its unstable.

One of the following is a risk factor of stroke in non-valvular atrial fibrillation:

Answer: age above 75



Case scenario of bradycardia, chest pain, and hypotension.. what to give ?

Answer: IV adenosine

Does not increase the survival in HF?

Answer: Digoxin

2021 ESC HF GUIDELINES RECOMMENDATIONS FOR THE MANAGEMENT OF PATIENTS WITH HFrEF		
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Sacubitril/valsartan is recommended as a replacement for an ACEi in patients with HFrEF to reduce the risk of HF hospitalization and death	I	B

Doesn't increase troponin?

Answer: Pericarditis

Non MI Causes of Troponin Elevation

Tachycardia

PE

Cardiac failure w/ myonecrosis

Cardiac surgery

Myocarditis

Renal failure: troponin I

Shock

Sepsis

MI and the other causes , cause elevated troponin

Regarding cardiac enzymes, which is wrong?

Answer: Troponin can be used 8 days after MI to reveal re-infarction

Patient with signs of right heart failure, clear lungs, was treated with radiation for Hodgkin?

Answer: Constrictive pericarditis

Constrictive Pericarditis

- Evidence of right heart failure
- Kussmaul sign: no fall or even elevation JVP with inspiration
- Abnormal echo

Constrictive Pericarditis

- Dyspnea
- Fatigue
- JVD
- Hepatomegaly and ascites
- Edema
- Neck veins distend with inspiration (Kussmaul's sign)
- Pericardial knock (early diastolic sound)
- Afib in 20%

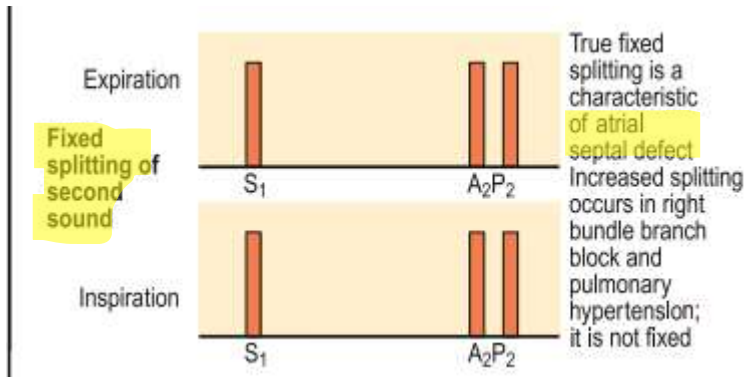
Causes:

- Cardiac surgery
- Viral infection
- Acute pericarditis
- Mediastinal irradiation
- Rheumatoid arthritis, CTD

Fixed splitting of S2 throughout the respiratory cycle, Dx?

Answer: ASD

From
macleods



- Which of the following doesn't improve mortality in heart failure:

Answer: Furosemide

Book step up

b. Diuretics

- Most effective means of providing *symptomatic* relief to patients with moderate to severe CHF
- Recommended for patients with systolic failure and volume overload
- *Have not been shown to reduce mortality or improve prognosis, just for symptom control. Goal is relief of signs and symptoms of volume overload*

2021 ESC HF GUIDELINES RECOMMENDATIONS FOR THE MANAGEMENT OF PATIENTS WITH HFrEF

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An MRA is recommended for patients with HFrEF to reduce the risk of HF hospitalization and death	I	A
Dapagliflozin / empagliflozin are recommended for patients with HFrEF to reduce the risk of HF hospitalization and death	I	A
Sacubitril/valsartan is recommended as a replacement for an ACEi in patients with HFrEF to reduce the risk of HF hospitalization and death	I	B

- Which of the following does increase mortality in myocardial infarction:

- Answer: Female gender

TIMI Risk Score in STEMI

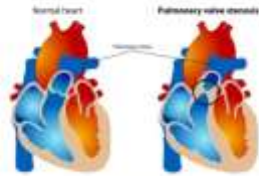
Risk factor	Score
1- Age>65	2
2- Age>75	3
3- Hist of angina	1
4- Hist of hypertension	1
5- Hist of DM	1
6- Syst BP< 100	3
7- Heart rate> 100	2
8- Killip II-IV	2
9- Ant M or LBBB	1
10- Delay treat > 4 hr	1

A patient with ejection click on upper left sternal border with 4/6 systolic murmur with suprasternal notch thrill:

Answer: Pulmonic stenosis

Pulmonic Stenosis

- **Congenital defect** in children
 - Fused commissures with thickened leaflets
- Carcinoid heart disease
- Systolic crescendo-decrescendo murmur at left upper sternal border



Boards&Beyond

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Systolic Murmurs

- Occur when heart contracts/squeezes
- Between S1-S2
- Flow murmur (benign)
- Aortic stenosis
- Mitral regurgitation
- *HLR* Pulmonic stenosis
- Tricuspid regurgitation
- Hypertrophic cardiomyopathy
- Ventricular septal defect (VSD)

Which of the following does not have pulsus paradoxus?

Answer: Hypertrophic cardiomyopathy*

- It happens in constrictive pericarditis & tamponade

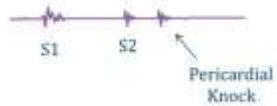
- What is wrong about Constrictive pericarditis:

Answer: Pulsus alternans is a feature

Constrictive Pericarditis

Other Features

- Pulsus paradoxus uncommon (~20%)
- High RA, RVEDP, PCWP pressures
- Equalization of pressures
- **Pericardial knock**



Which of the following does not increase the risk of thromboembolic events in A.fib patients

Hypertension:

- Answer: High LDL

High LDL does not directly increase the risk of thromboembolic events in A-fib patients. It is more closely associated with atherosclerosis and CAD rather than the blood stasis and clot formation that lead to thromboembolic complications in A-fib.

- All decrease HDL except:

Answer: Low carbohydrate intake

It increases it not decrease it

ما لقيت عنه شي بالاسلايدات او الأماكن الثانية

Which is not consistent with JVP of 4 cm above the neck with lower limb edema:

Answer: Right heart failure

PHYSICAL EXAM

Decreased C.O.

- Tachycardia
- ↓ BP and pulse pressure
- cool extremities (vasoconstriction)
- Pulsus Alternans (end-stage)

Pulmonary venous congestion:

- rales
- pleural effusions

Cardiac:

- laterally displaced PMI
- S3 (acutely)
- mitral regurgitation murmur

Systemic congestion

- ↑ JVD
- hepatosplenomegaly
- ascites
- peripheral edema

Most common causative organism of infective endocarditis in IV drug users:

- Answer: Staph aureus

c. Endocarditis in IV drug users

- Frequently presents with right-sided endocarditis.
- *Staphylococcus aureus* is the most common cause.

book → Step up

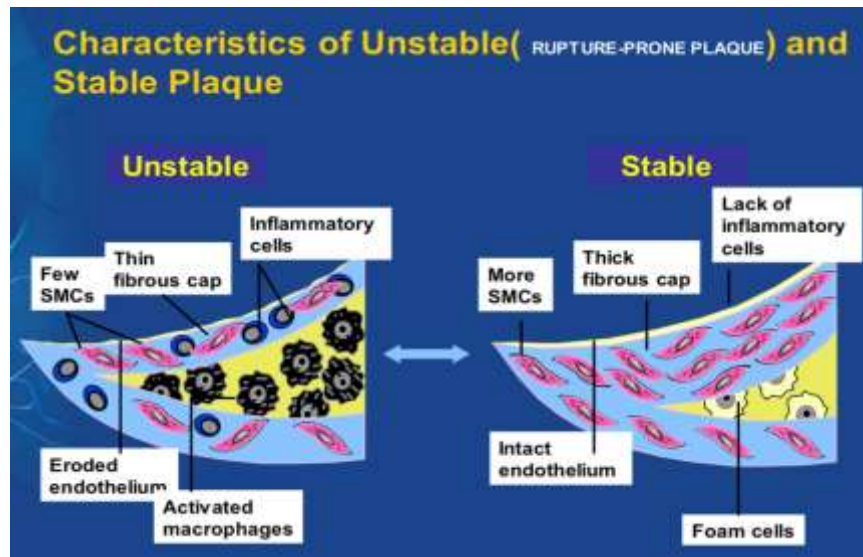
- A patient with hx suggesting pericarditis (chest pain decrease by leaning forward), which of the following is wrong:
- Answer: Steroids are 1st line therapy

Treatment

- In patients with acute pericarditis following an MI, aspirin plus colchicine rather than another NSAID plus colchicine
- This is principally due to the possibility that other NSAIDs may interfere with healing and scar formation.
- Although the evidence of potential harm from glucocorticoids and NSAIDs other than aspirin is modest, there is no evidence that these medications improve outcomes.

All increase the risk of rupture of atheroma except:

- Answer: High smooth muscle cell content



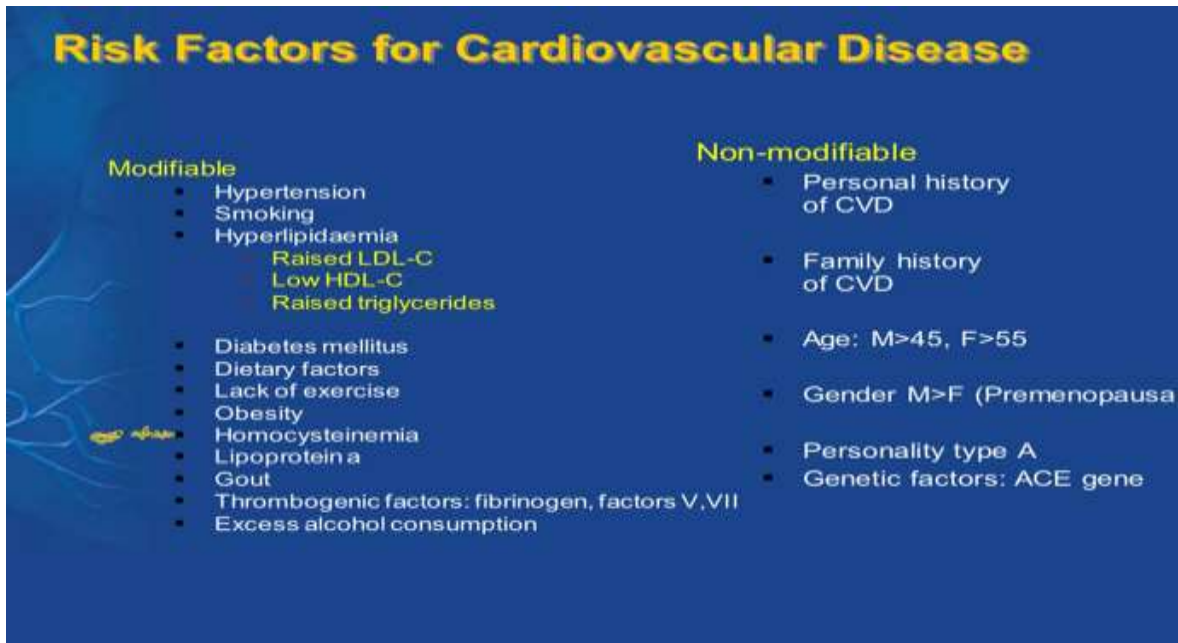
All have a risk of thromboembolism except:

- Answer: Constrictive pericarditis

All are risk factors for CAD except:

Answer: Low homocystine

•



Risk Factors for Cardiovascular Disease

Modifiable	Non-modifiable
<ul style="list-style-type: none">▪ Hypertension▪ Smoking▪ Hyperlipidaemia<ul style="list-style-type: none">▪ Raised LDL-C▪ Low HDL-C▪ Raised triglycerides▪ Diabetes mellitus▪ Dietary factors▪ Lack of exercise▪ Obesity▪ Homocysteinemia▪ Lipoprotein a▪ Gout▪ Thrombogenic factors: fibrinogen, factors V, VII▪ Excess alcohol consumption	<ul style="list-style-type: none">▪ Personal history of CVD▪ Family history of CVD▪ Age: M>45, F>55▪ Gender M>F (Premenopausal)▪ Personality type A▪ Genetic factors: ACE gene

A patient with bilateral lower limb edema, JVP 4cm above sternum ... All can cause his condition except:

- a. Right side heart failure
- b. Cirrhosis
- c. Nephroticd.
- d. Pelvic venous fibrosis

Ans a

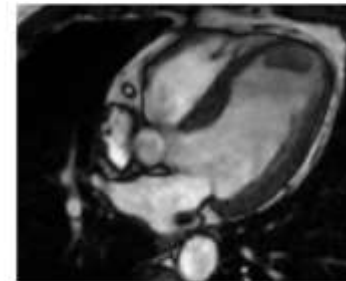
) A Patient with acute right lower limb pain, all can cause this except:

- a. Constrictive pericarditis
- b. A fib
- c. Paroxysmal SVT
- d. Bacterial endocarditis

Ans a

Acute Limb Ischemia

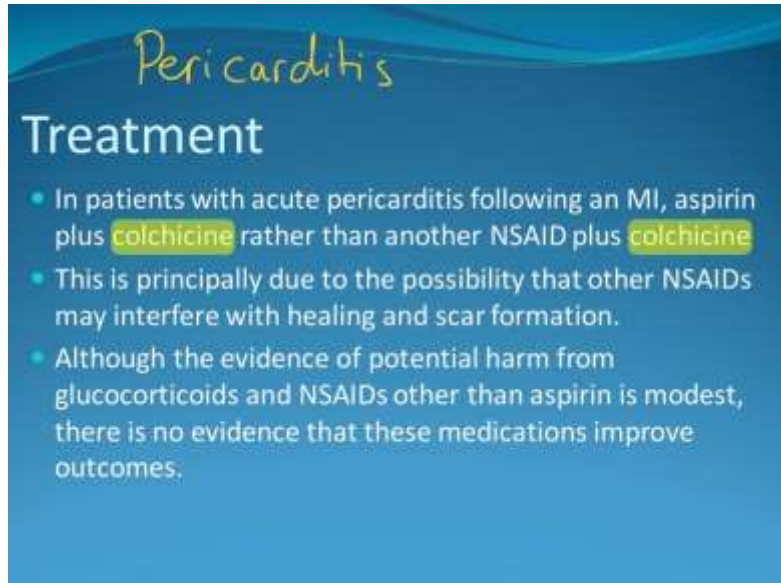
- Sudden decrease in limb perfusion
- High risk of amputation
- **Thrombosis**
 - At site of atherosclerotic plaque
 - At aneurysm
 - Hypercoagulable state
- **Cardiac embolism**
 - Left atrial appendage in atrial fibrillation
 - Left ventricle in patients with anterior infarction



Otherwise healthy 21 year old patient with ST elevation in more than 7 leads, What is the best treatment:

- a. Aspirin and heparin
- b. Prednisone
- c. Colchicine

Ans c



Pericarditis

Treatment

- In patients with acute pericarditis following an MI, aspirin plus **colchicine** rather than another NSAID plus **colchicine**
- This is principally due to the possibility that other NSAIDs may interfere with healing and scar formation.
- Although the evidence of potential harm from glucocorticoids and NSAIDs other than aspirin is modest, there is no evidence that these medications improve outcomes.

Echocardiogram can show all of the following except:

- a. Aortic stenosis
- b. ASD
- c. Coronary artery calcification
- d. Mitral incompetence

Ans c

All can cause ST elevation except:

- a. Coronary spasm
- b. Constrictive pericarditis
- c. Hyperkalemia
- d. Ventricular aneurysm

Ans b

Myocardial Infarction

A. General Characteristics

1. MI is due to necrosis of myocardium as a result of an interruption of blood supply (after a thrombotic occlusion of a coronary artery previously narrowed by atherosclerosis).
 - a. Most cases are due to acute coronary thrombosis: Atheromatous plaque ruptures into the vessel lumen, and thrombus forms on top of this lesion, which causes occlusion of the vessel.
 - b. *MI is associated with a 30% mortality rate; half of the deaths are prehospital.*
 - c. Most patients with MI have history of angina, risk factors for CAD, or history of arrhythmias.

Ventricular Aneurysm

Weeks to months after MI

- More common **anterior infarction**
- Risk of thrombus → stroke, peripheral embolism
- Causes persistent ST elevations

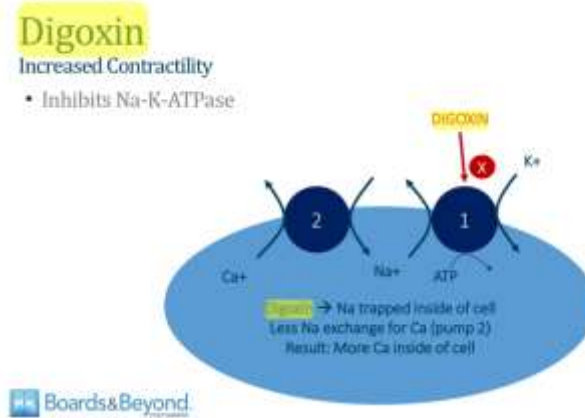


Reprint: J. Lynch, Medical Illustration/Wikipedia

A Patient on Digoxin developed loss of appetite, vomiting, ... Which of the following might have caused his symptoms:

- a. hypocalcemia
- b. hypoxia
- c. hypothyroidism
- d. hypokalemia

Ans d



All of the following are associated with cardiac constrictive pericarditis except:

- a. Edema
- b. Ascites
- c. Hepatomegaly
- d. Pulsus alternans

Ans d

Constrictive Pericarditis

- Dyspnea
 - Fatigue
 - JVD
 - Hepatomegaly and ascites
 - Edema
 - Neck veins distend with inspiration (Kussmaul's sign)
 - Pericardial knock (early diastolic sound)
 - Afib in 20%
- Causes:
- Cardiac surgery
 - Viral infection
 - Acute pericarditis
 - Mediastinal irradiation
 - Rheumatoid arthritis, CTD

A Patient with suprasternal thrills, ejection click after S1, flow ejection systolic murmur,

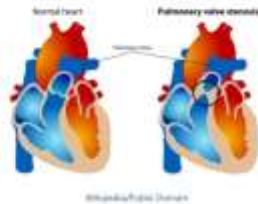
single S2, systolic heave in the left supra-sternal fossa, what would be the cause:

- a. Aortic valve stenosis
- b. Pulmonic valve stenosis
- c. Coarctation of aorta
- d. PDA

Ans b

Pulmonic Stenosis

- **Congenital defect** in children
 - Fused commissures with thickened leaflets
- Carcinoid heart disease
- Systolic crescendo-decrescendo murmur at left upper sternal border



Boards&Beyond
Preparation

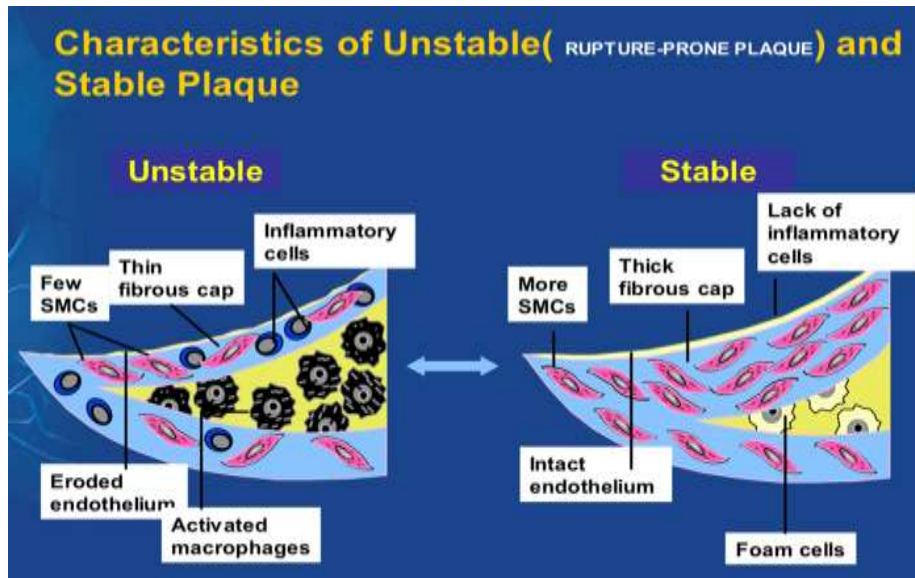
Systolic Murmurs

- Occur when heart contracts/squeezes
- Between S1-S2
- Flow murmur (benign)
- Aortic stenosis
- Mitral regurgitation
- *Also* Pulmonic stenosis
- Tricuspid regurgitation
- Hypertrophic cardiomyopathy
- Ventricular septal defect (VSD)

Which of the following doesn't support plaque rupture in atherosclerosis:

- a. Low fibroblast
- b. High inflammatory cells
- c. Abundant smooth muscles

Ans c



All can be associated with endocarditis except:

- a. Anti A50
- b. Hematuria
- c. A fib
- d. Rheumatoid factor

Ans a

Infective Endocarditis

Complications

1. Local

- Valvular destruction → Heart failure
- Peri-valvular extension → Heart block

2. Systemic

- Embolism to any vascular territory
- Distant infection

3. Immunological

- Osler nodes, Roth spots
- Glomerulonephritis, rheumatoid

All of the following is considered a poor prognostic indicator in anterior MI except:

- a. Being a female
- b. Sinus tachycardia
- c. Persistent hypertension

Ans a

PROGNOSIS of MI
pre-hospital mortality:20%
hospital mortality:10-12%
1st year mortality 10%

Poor prognostic features:

- 1-Heart Failure
- 2-EF< 40%
- 3- Large infarction size
- 4-Anerior MI
- 5-New BBB
- 6- Mobits type 2 , and 3rd AV Block
- 7-Reinfarction or extension of MI
- 8-Frequent PVC
- 9-VF or VT
- 10-Atrial fibrillation
- 11-Post infarction angina
- 12-DM
- 13-Age> 70
- 14-female

Good luck