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شعبة الإمارات لطب الأسرة

Cardiology
Acute Myocardial Infarction

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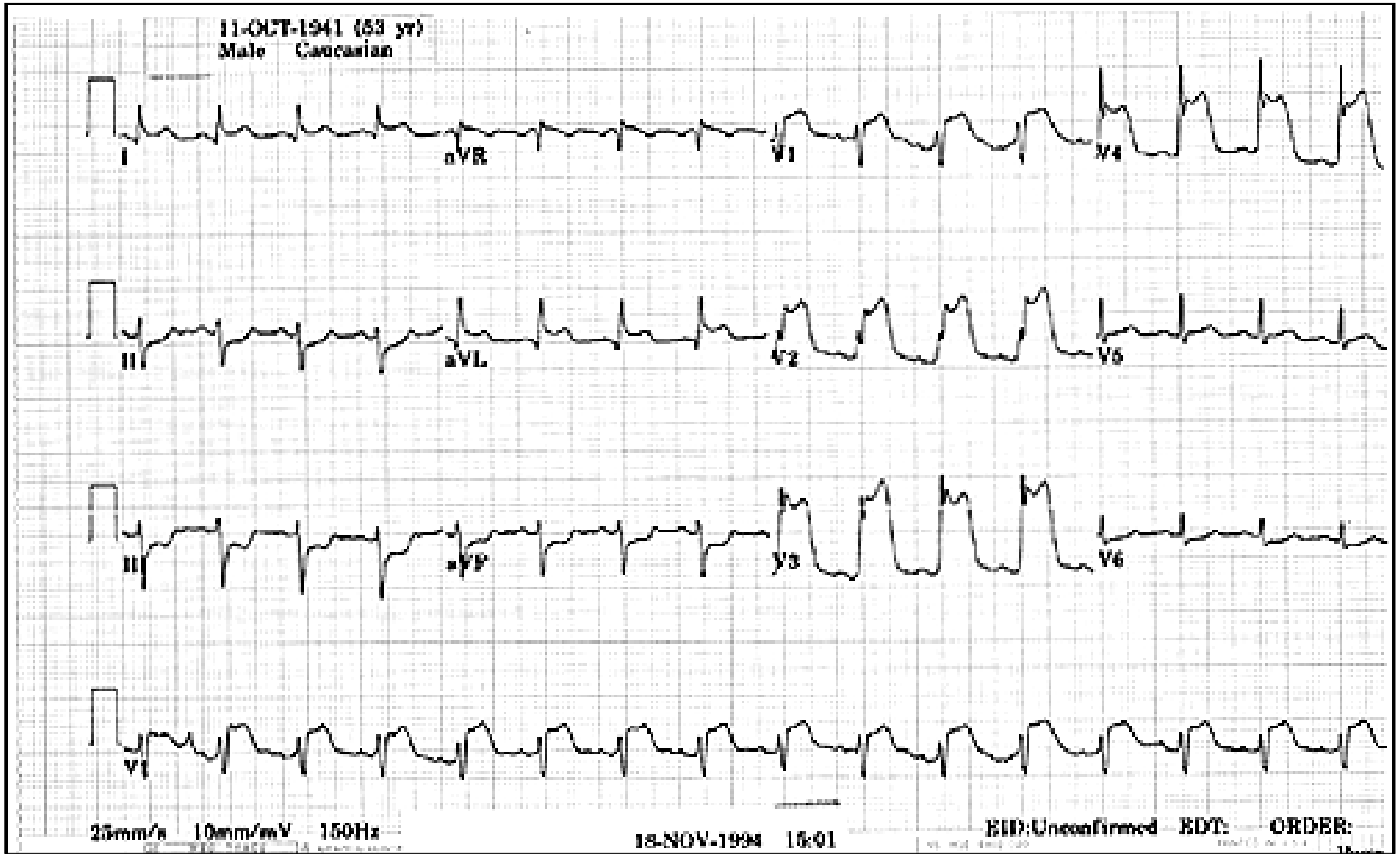
Question: A 55 yo male presents urgently to the ED with crushing, substernal chest pain. His EKG shows:



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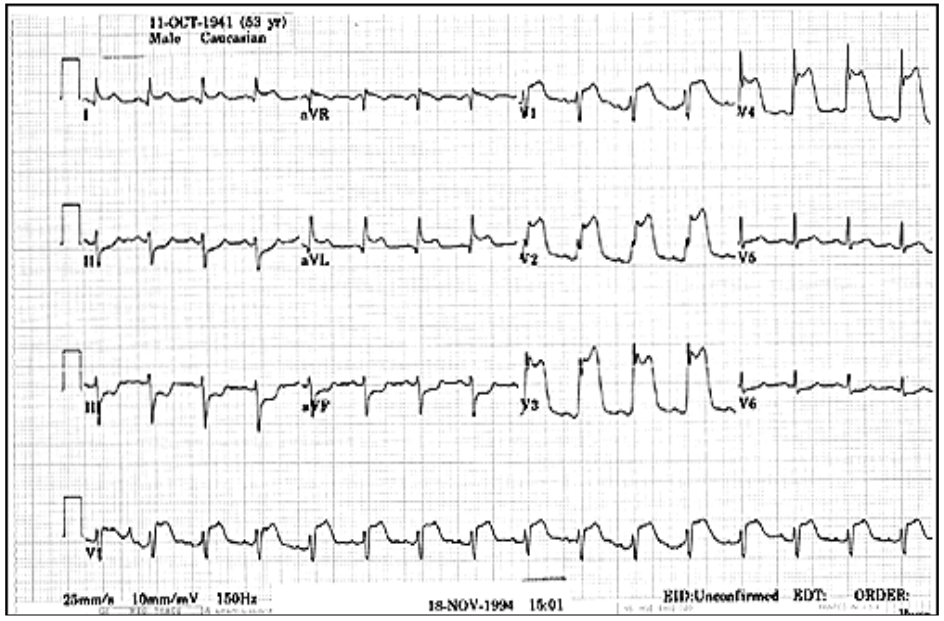
Question *(cont'd)*: The best treatment for this condition is:

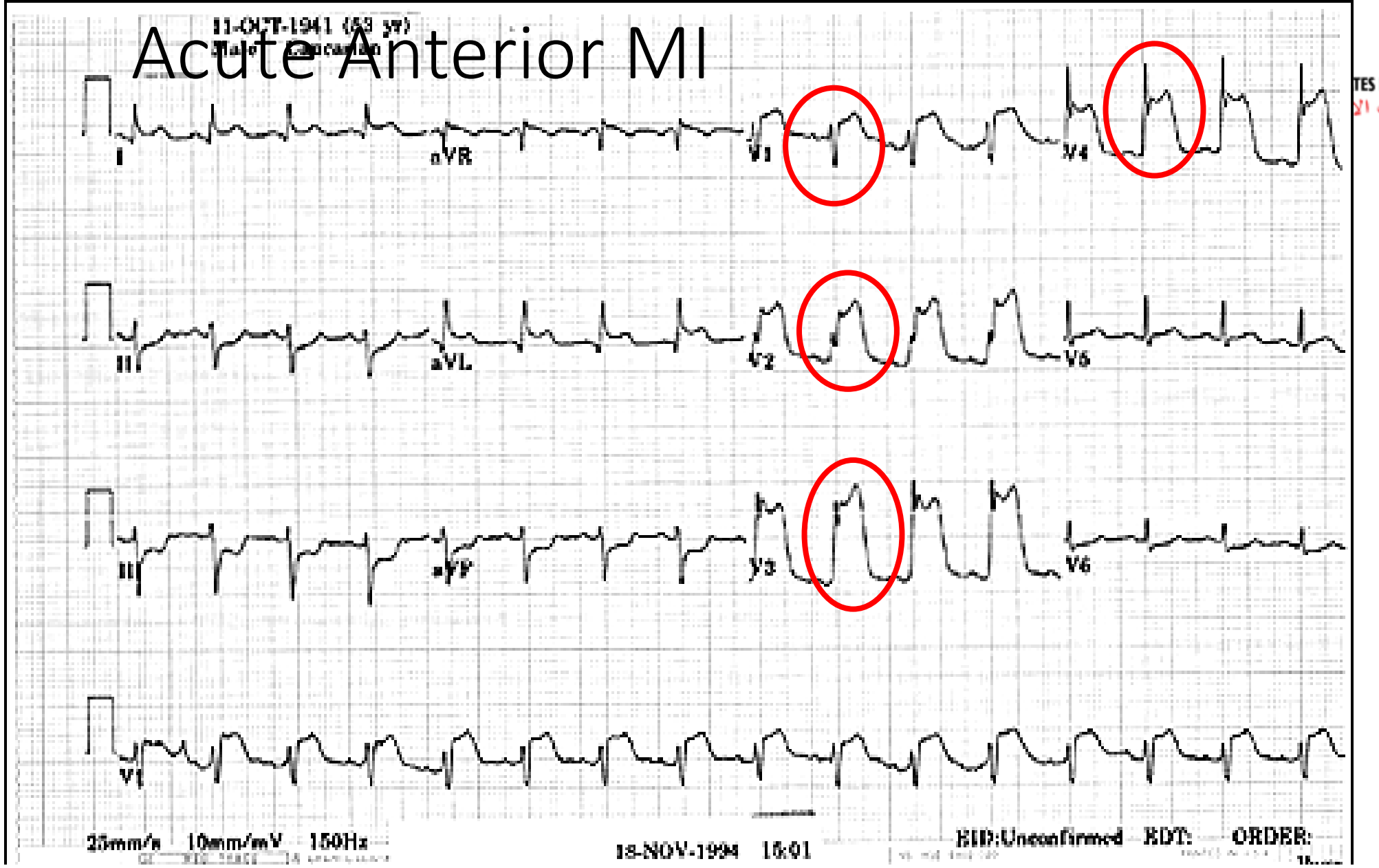
A. t-PA and hospitalization
B. IV heparin, IV metoprolol, and Morphine, Oxygen, Nitroglycerin, Aspirin (MONA) and Clopidogrel
C. Naproxen 500 mg bid for 1-2 weeks with food
D. Echocardiogram, ACEI, and statin
E. Emergent PCI



Correct answer is E

- t-PA would only be indicated if PCI was not available.
- IV heparin, metoprolol, and MONA are all good supportive therapies but this patient needs his LAD opened.
- Naproxen is used for pericarditis, but not MI
- Similarly, an echo, ACEI, and statins are all post-MI therapies but do not address the active clot.

Acute Anterior MI



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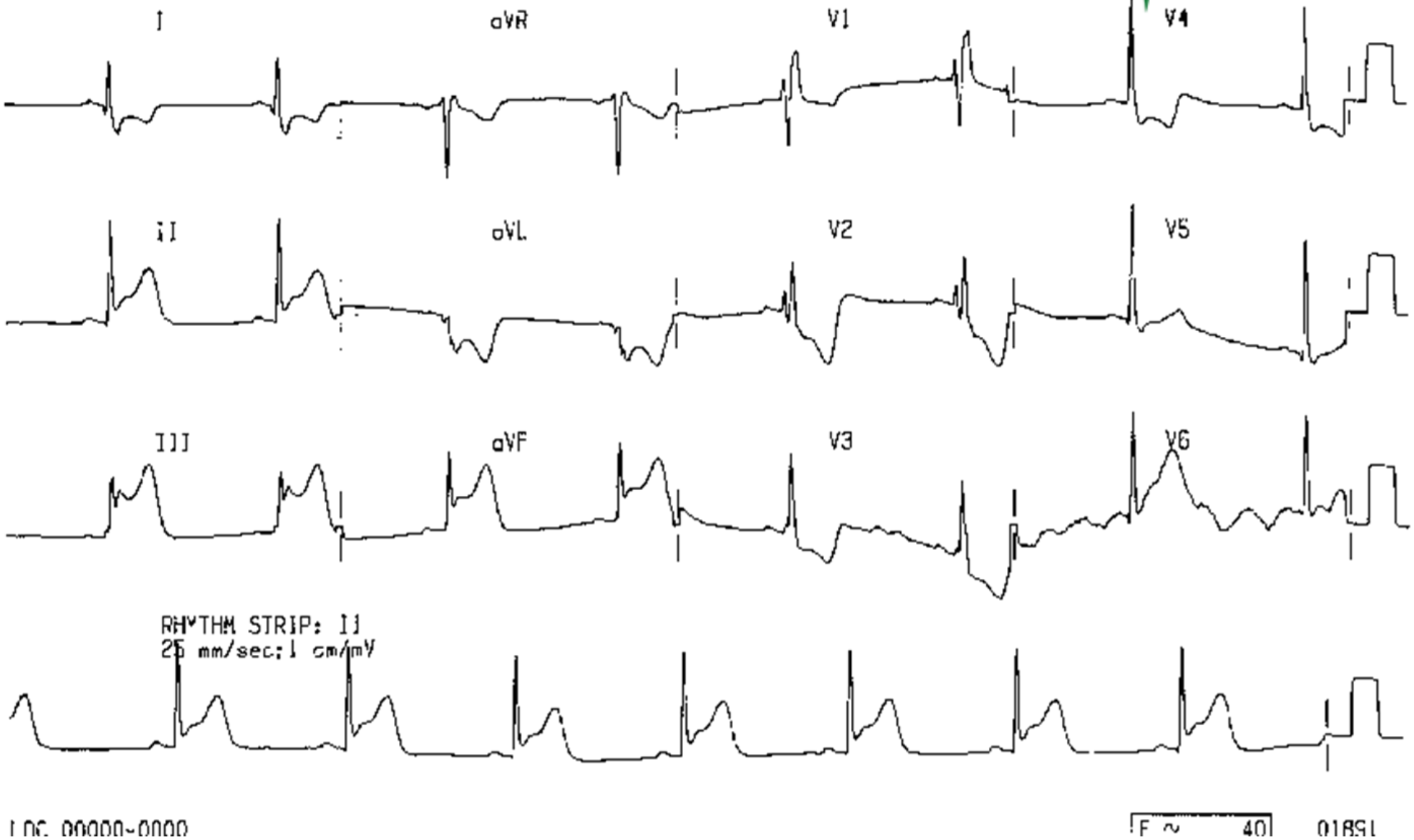
A 62-yo female presents with onset of nausea and vomiting for 1 hour. What is the diagnosis?



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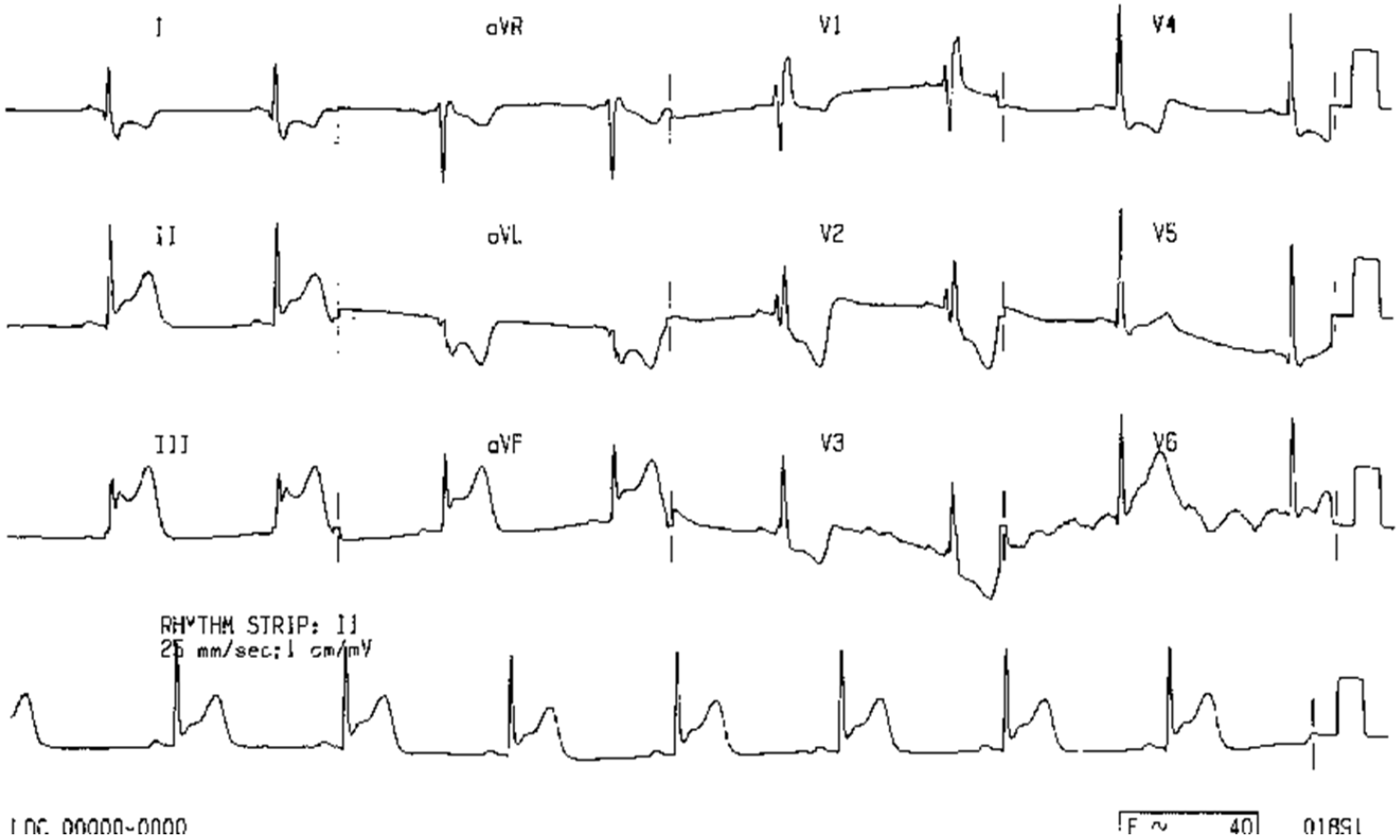
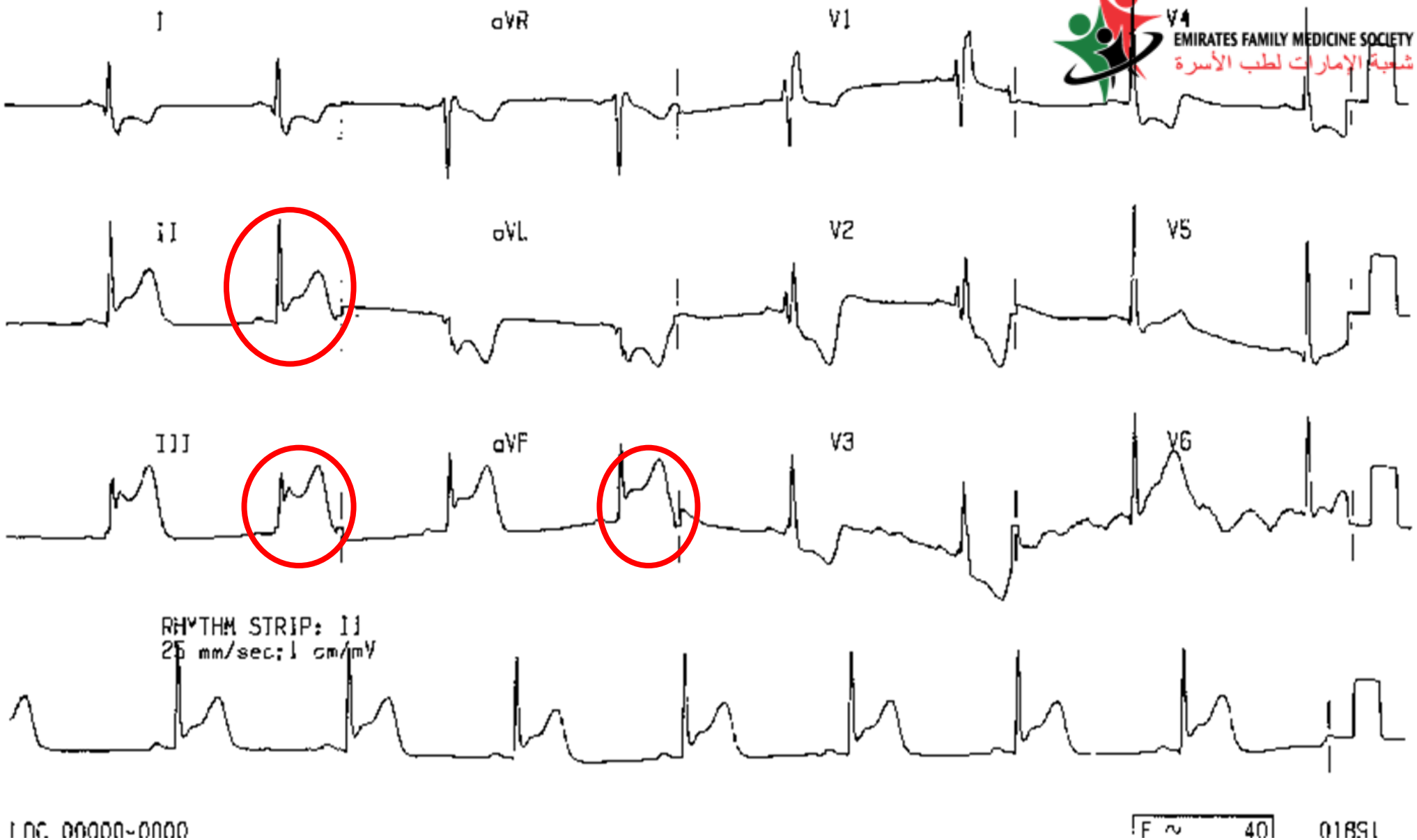
Question 2
What is the diagnosis?

A. Anterior wall infarction
B. Pericarditis
C. Inferior wall infarction
D. Septal MI



Inferior Wall MI



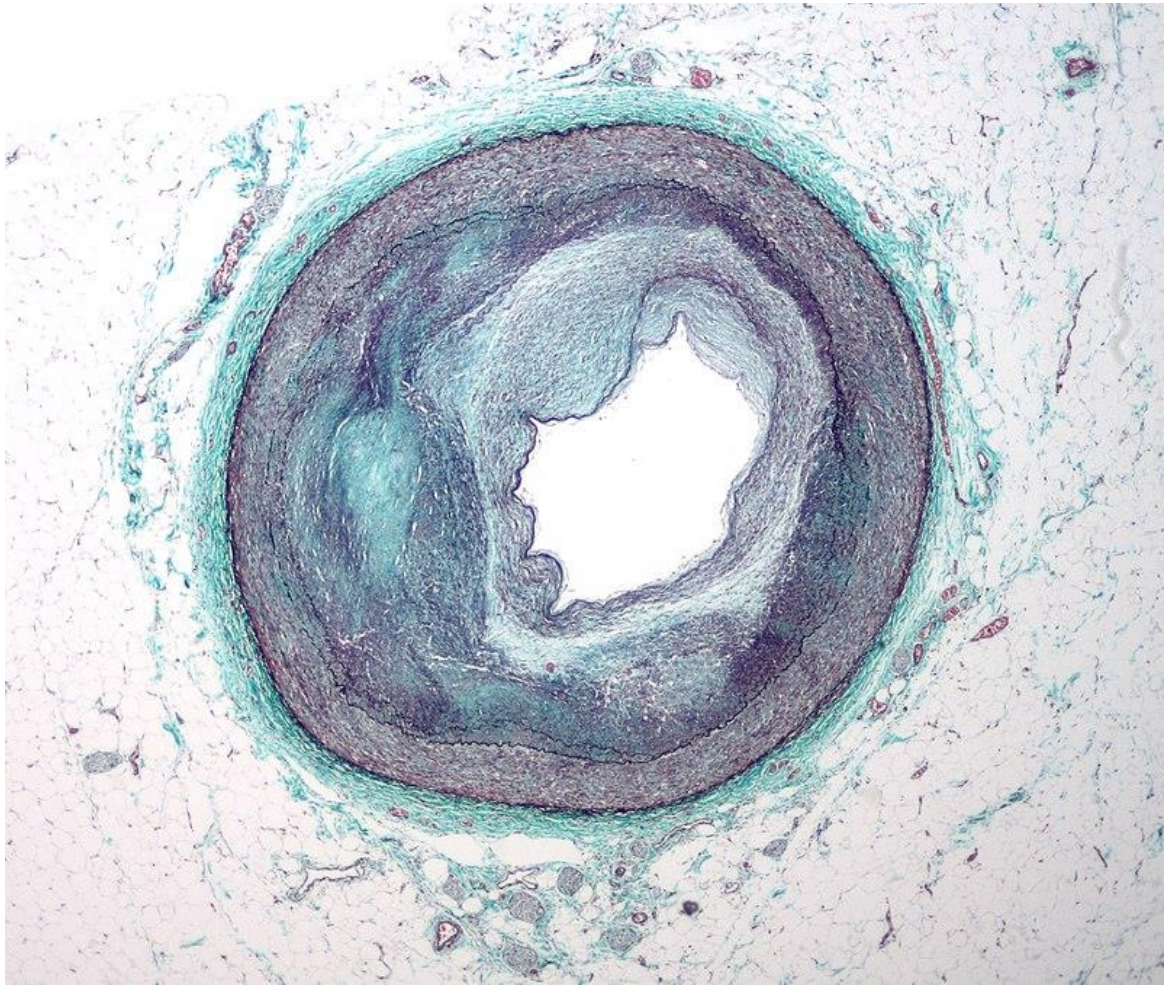
Acute MI: Definition

- Types of MI: STEMI and NSTEMI
- STEMI often requires consideration of immediate recanalization therapy
- Acute coronary syndrome (non–ST segment elevation MI/unstable angina) often does not

Pathophysiology of Acute MI

- Plaque rupture is the most common event leading to coronary thrombotic occlusion (MI)
- Plaque rupture most frequently occurs in lipid-laden plaques

Atherosclerosis



STEMI vs NSTEMI

- STEMI is usually the result of complete coronary occlusion after plaque rupture
- NSTEMI is usually associated with greater plaque burden without complete occlusion
- This difference contributes to the increased early mortality seen in STEMI and the eventual equalization of mortality between STEMI and NSTEMI after 1 year

Diagnosis

- Traditionally, diagnosis of MI requires:
  - Ischemic-type chest discomfort (Symptoms)
  - ECG abnormalities
  - Elevated serum cardiac markers.
    - Recently, serum cardiac markers (e.g., troponin I [TnI] or troponin T [TnT]) have assumed a dominant role in confirming the diagnosis of acute MI in patients with suggestive clinical and/or ECG features

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Which one of the following types of chest pain is most likely to be a myocardial infarction?

A. Chest discomfort typically lasting 30-60 seconds
B. Squeezing pain radiating from the sub sternum to the left am or jaw
C. Chest pain reliably relieved with one nitroglycerin tablet
D. Clustered around the evening hours
E. Associated with bedrest

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Correct answer is B
Radiation location

- The most characteristic pattern of radiation is to the left arm
- Can radiate to right arm, both arms, shoulders, neck, jaw, teeth, epigastrium, and interscapular areas
- Discomfort above the jaws or below the umbilicus is not typical of acute MI

Onset and Duration

- The discomfort of acute MI is more severe and lasts longer (typically 20 minutes to several hours) than angina
- Not reliably relieved by rest or nitroglycerin
- Can occur at any time of the day
  - Most appear to be clustered around the early hours of the morning or are associated with demanding physical activity, or both

Additional Considerations

- ~20% of acute MIs are painless (“silent”) or atypical (unrecognized)
- More common in diabetics and elderly
- Women may have more atypical symptoms of MI.

EKG anatomy follows the coronary arteries

- Lateral leads (left circumflex off the left main coronary)
  - I, aVL, V_5, V_6
- Anterior leads (left anterior descending artery)
  - $V_1 – V_4$
- Septal/posterior leads
  - V_1-V_2
- Inferior leads (right coronary artery is dominant posteriorly 80% of cases)
  - II, III, aVF

Which of the following ECG findings is consistent with an acute or evolving MI:

A. ST segment depression
B. RBBB pattern
C. P wave flattening
D. ST segment elevation
E. QTc prolongation

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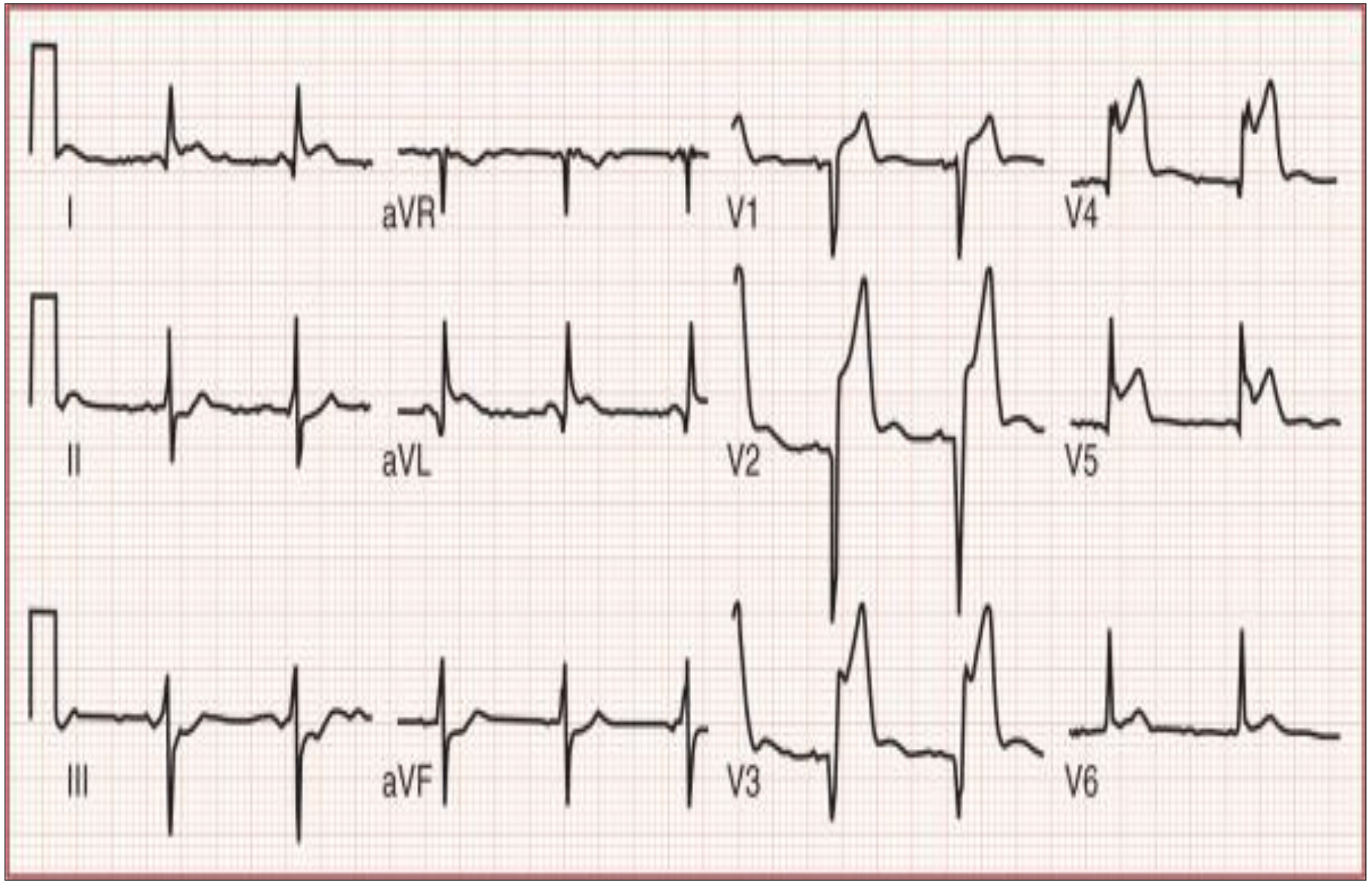
Correct answer is D
Acute Phase EKG changes

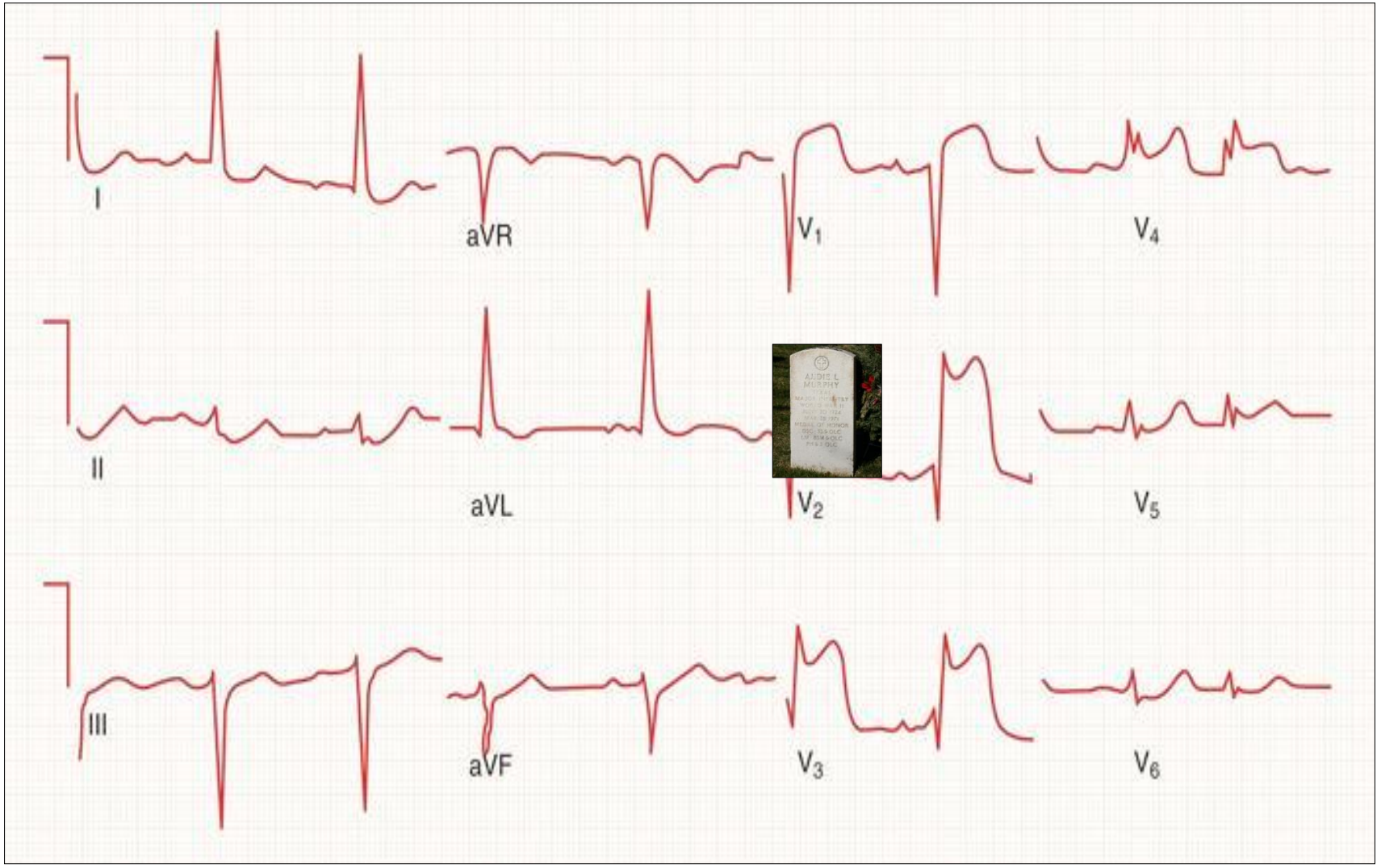
- This earliest phase begins within minutes, persists, and evolves over hours
- T waves increase in amplitude and widen over the area of injury (hyperacute pattern)
- ST segment elevation in area of ischemia/injury
- ST segment depressions that occur in leads opposite those with ST segment elevation are known as “reciprocal changes”
- Q waves evolve during a transmural MI

Hyperacute T waves



Tombstones

Tombstone EKGs



Imaging

- EKG
- CXR
- Echocardiogram
- Radionuclide scans (used more for risk stratification)

Treatment

- In patients with ST segment elevation acute MI by clinical and ECG criteria, a recanalization strategy must be selected
  - Primary percutaneous coronary intervention
    - **Door-to-cath < 90 minutes is goal**
    - **PCI is preferred treatment over thrombolytics as TIMI-3 (normal blood flow) is achievable >94%**
  - Fibrinolysis
    - Helpful when PCI not available
    - TIMI-3 ~ 55%

Treatment in ED

- Morphine
- Oxygen
- NTG
- ASA
- These four constitute our MONA treatment

- Beta-blocker
- Heparin
- Thienopyridines/P2Y12 inhibitors (clopidogrel, ticagrelor, prasugrel)

A 63 yo male sustains an MI. PCI with drug-eluting stent is performed and his hospital course is unremarkable. At the time of discharge, which of the following medications should routinely be prescribed?

A. Metformin 500 mg bid

B. Esomeprazole 40 mg daily

C. Fluoxetine 20 mg daily

D. Aspirin 81 mg + Clopidogrel 75 mg daily

E. Nifedipine XL 30 mg daily

Correct answer is D

- While dual antiplatelet therapy may increase the risk of GI bleeding, there is no recommendation for routine GI prophylaxis with PPIs.
- All other meds are routine post-MI care, as per next slide.

Discharge Medication Checklist After Myocardial Infarction

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Medication	Doses	Reasons Not to Use	Comments
Aspirin	Initial: 162–325 mg	High bleeding risk	Reduces mortality, reinfarction, and stroke
	Maintenance: 75–162 mg qd		
Clopidogrel (or similar medication)	Initial dose: 300 mg	High bleeding risk	Indicated after PCI for 3 mo–1 yr; also reduces vascular events when added to aspirin in non–ST segment elevation acute MI (also useful based on recent clinical trials after ST segment elevation acute MI)
	Maintenance: 75 mg qd		
β-Blocker (e.g., metoprolol, carvedilol)	Metoprolol: 25 to 200 mg qd	Asthma, bradycardia, severe HF	Reduces mortality, reinfarction, sudden death, arrhythmia, hypertension, angina, atherosclerosis progression
	Carvedilol: 6.25 to 25 mg bid		
ACE inhibitor (e.g., ramipril, lisinopril) or ARB (e.g., valsartan, losartan)	Ramipril: 2.5–10 mg qd	Hypotension, allergy, hyperkalemia	Reduces mortality, reinfarction, stroke, heart failure, diabetes, atherosclerosis progression
	Lisinopril: 5–10 mg qd		
	Valsartan: 80–160 mg qd–bid		
	Losartan: 50–100 mg qd		
Lipid-lowering agent (e.g., a statin) (e.g., atorvastatin, simvastatin)	Atorvastatin: 10–80 mg qd	Myopathy, rhabdomyolysis, hepatitis	Goal = LDL <100 and preferably <70 (statins also can benefit patients with lower LDL[†]); consider addition of niacin or fibrate for high non-HDL cholesterol, low HDL
	Simvastatin: 20–40 mg qd		
Nitroglycerin sublingual	0.4 mg SL prn for angina	Aortic stenosis; sildenafil (Viagra) use	Instruct on prn use and appropriate need for medical attention

Acute MI - Key points

- Use the EKG to dx and localize the MI
- PCI within 90 minutes is goal for all pts
- ASA dose is initially 325 mg in the ED then 75-160 (81) mg post-MI
- ED treatment:
  - MONA (morphine, oxygen, nitroglycerin, aspirin)
  - IV heparin to stabilize plaque/clot
  - IV BB to decrease cardiac O2 utilization

Atrial Fibrillation

Question: A 76 y.o. male presents to clinic with complaint of heart skipping. No chest pain, dyspnea, or edema. No syncope. No prior CAD, MI, HF, or DM. PMHx – HTN and high chol. EKG shows A. fib. with a ventricular rate of 105. Vital signs are stable and patient feels well. Which of the following is not an appropriate therapy to decrease the risk of stroke?

- Send the patient to the ED for evaluation
- Warfarin 10 mg a day for 2 days, then decrease to 5 mg and check INR
- Rivaroxaban 20 mg qHS
- Clopidogrel 300 mg load then 75 mg daily
- Apixaban 5mg bid

Correct Answer is D

- Patient has new onset A fib with RVR. He is clinically stable. A trip to the ED, while not optimal, is acceptable
- His $CHADS_2$-VASC score is 3 due to HTN and age >75, suggesting treatment with anticoagulants
- Clopidogrel is not an acceptable option without combining it with aspirin when a patient cannot take warfarin or another anticoagulant

Risk Factors for atrial fibrillation

- HTN, heart failure, CAD
- Valvular abnormalities, esp. mitral
- Obesity
  - Left atrial size increases with BMI
- Sleep apnea
- Left atrium larger than 4 cm
- Congenital heart disease, esp. ASD

Question: Which of the following is an uncommon cause of atrial fibrillation?

A. Hyperthyroidism
B. Cardiac amyloidosis
C. Holiday heart (Celebration with alcoholic beverages)
D. COPD exacerbation
E. Enlarged left atrial size > 4.0 cm

Correct Answer is B
A. Fib. Reversible Causes

- Alcohol (Holiday heart)
- Hyperthyroidism
- Pericarditis, myocarditis
- Surgery
- Myocardial Infarction
- Pulmonary embolus, pulmonary disease

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Meds For Prevention of Stroke In Nonvalvular A. Fib

- Warfarin/Coumadin – years of utility
- Clopidogrel/Plavix + aspirin when warfarin not indicated
- Dabigatran/Pradaxa (thrombin inhibitor)
  - 150 mg bid, start when INR <2
  - Renal dosing 75 mg bid with CrCl 15-30 ml/min; <15 ml/min use not defined

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Meds For Prevention of Stroke In Nonvalvular A. Fib

- Rivaroxaban/Xarelto (factor Xa inhibitor)
  - 20 mg PO daily with evening meal, start when INR < 3
  - Renal dosing necessary 15 mg when CrCl 15-50 ml/min; <15 ml/min, avoid use
- Apixaban/Eliquis (factor Xa inhibitor)
  - 5 mg bid
  - 2.5 mg twice daily for 2 of the following risk factors
    - Age ≥80 years, weight ≤60 kg, or serum creatinine ≥1.5 ml/dL
- Edoxaban/Savaysa (factor Xa inhibitor)
  - 60 mg daily,
  - Don’t use with CrCl >95; not studied therefore FDA not approved

Question: A 65 y.o. female has A. fib and is s/p mechanical aortic valve repair. What is the correct INR range for her Coumadin?

A. 1.0 – 1.5
B. 1.5 – 2.0
C. 1.5 – 2.5
D. 2.0 – 3.0
E. 2.5 – 3.5

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Correct Answer is E
Warfarin and INR dosing

- For nonvalvular A. fib
  - INR goal 2.0 – 3.0
- For valvular A. fib
  - INR goal is 2.5 – 3.5

$CHADS_2$-VASC Score for Stroke Risk

- The $CHADS_2$-VASC risk score is the most popular calculator for stroke risk in non-valvular a. fib. and has been best validated in different patient populations

Source: Ref: Gage BF, Waterman AD, Shannon W, et.al. Validation of clinical classification schemes for predicting stroke: results from the National Registry of Atrial Fibrillation. *JAMA*. 2001 Jun 13;285(22):2864-70.

Recommendations for Use of Antithrombotic Therapy to Prevent Embolization in Nonvalvular A. Fib

- For all patients with nonvalvular AF and a $CHADS_2$–VASC score = 0 is low risk and may not require AC.
- A score =1, low-moderate risk and antiplatelet (ASA) or AC may be considered
- A score ≥2 or greater, moderate-high risk and AC should ne considered
- In patients who cannot take anticoagulant therapy, consider ASA 325 mg daily plus clopidogrel 75 mg daily, rather than aspirin alone (consider cost in addition)
- Note: the combination of ASA and clopidogrel produces a similar risk of bleeding to that seen with warfarin

Key Points

- Use the $CHADS_2$–VASC score to determine need for anticoagulation
- Rate control is as good as rhythm control
- Warfarin still the gold standard for AC with mechanical valves
  - INR 2.0–3.0 for nonvalvular A. Fib
- Rapid ventricular response (RVR) is common and can readily be controlled with an IV diltiazem drip

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Cardiology
Valvular heart disease, Heart Failure, and Hypertension

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Valvular Heart Disease

Grading of murmurs

- Grade I/VI Barely discernable
- Grade II/VI Readily discernable
- Grade III/VI Loud and easily heard
- Grade IV/VI Palpable thrill associated with murmur
- Grade V/VI Palpable with edge of stethoscope on precordium
- Grade VI/VI Heard with stethoscope off chest

Question: Which one of the following heart murmurs is best heard over the right precordial area extending into the neck?

A. Mitral valve insufficiency

B. Mitral valve prolapse

C. Aortic stenosis

D. Aortic insufficiency

E. Mammary souffle

Correct answer is C
Aortic Stenosis

- Bicuspid and other congenitally abnormal aortic valves
- Tricuspid aortic valve stenosis
- Rheumatic valvular heart disease
- Up to 5% of elders > 75 years old have aortic stenosis
- Mammary Souffle is a flow murmur through the internal mammary artery

Aortic Stenosis – Clinical Findings

- II-III/VI mid systolic murmur at upper right sternal border radiating into the carotids
- Carotid pulse – slow upstroke
  - Pulsus parvus et tardus
- PMI prolonged
  - LVH
- PMI laterally displaced
  - Dilated left ventricle

Diagnostic Testing

- 12 lead ECG – often shows LVH, Left atrial enlargement
- CXR-may show
  - Cardiomegaly
  - Pulmonary congestion
  - Aortic valve calcification
- Echocardiogram – indispensable!

Question: A 73 yo female has stable HTN and T2DM. She has known aortic stenosis on a prior echocardiogram. She has noted several episodes of lightheadedness while walking and recently almost passed out while shopping at Dubai Festival City Mall. She has no h/o CAD nor does she have chest pain or edema. Her exam is notable for a 2-3/6 systolic murmur that radiates up both carotids. Which of the following is the best next step?

A. Add an ACEI to decrease afterload
B. Aim for an A1C goal of 7.0 to prevent CAD
C. Start fludrocortisone (Florinef) to increase preload
D. Refer to cardiothoracic surgery to consider AV replacement
E. Add a calcium channel blocker to decrease BP

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Correct answer is D
Aortic Stenosis

- When the classic symptoms of angina, syncope, and heart failure develop, survival declines precipitously
  - 50% of symptomatic patients die within 2-5 years unless aortic valve is surgically replaced
- Prompt recognition of symptoms and evaluation for possible severe aortic stenosis are crucial in managing the disease

Aortic Stenosis - AVR

- Choice of valve prosthesis
- Mechanical valve – best choice for patients < 50 yo
  - Risk of thromboembolism
  - Bleeding from anticoagulation
- Biosynthetic valve
  - Limited durability – 10-15 years
  - Excellent choice in the elderly > 65 yo

Aortic Stenosis

- TAVR/TAVI – transcatheter aortic valve replacement/implantation
- Balloon valvotomy
  - Palliative technique in poor surgical candidates for AVR
  - Higher incidence of:
    - Residual/recurrent stenosis
    - Death
    - Stroke
    - Aortic rupture
    - Aortic regurgitation

Aortic Stenosis
Key points

- AS is the most common murmur in family medicine.
- It is a harsh midsystolic murmur heard at the RUSB and radiating into the carotids.
- When a patient with AS becomes symptomatic, they should be referred for valve replacement surgery if they are fit.

Question: A 32-year-old male presents to clinic with a two-day history of pain between his shoulder blades. It feels like a ripping sensation. He denies the use of alcohol. The pain is not worse with breathing, but always there. No history of hypertension. He had a bad sore throat as a child. What is the most likely diagnosis?

A. Partial tear of the levator scapulae and rhomboid muscles

B. Pancreatitis

C. Pulmonary embolus

D. Aortic dissection

Correct answer is D

- This is a classic case of aortic dissection wherein the pain is dscribed as an acute ripping sensation located between the shoulder blades posteriorly. The aorta is a retropleural/-peritoneal structure.
- A muscle strain/tear is due to use/overuse/injury to the affected muscle group. Spontaneous tearing without an antecedent history can usually be ruled out.
- The pain of pancreatitis can also radiate posteriorly, but to the mid back.
- Acute pulmonary embolus can give pleuric chest pain – sharp, localized pain from irritation of the pleural rubbing against the chest pain. It can often be localized with the pointing of a finger.

Mitral Regurgitation and Mitral Valve Prolapse

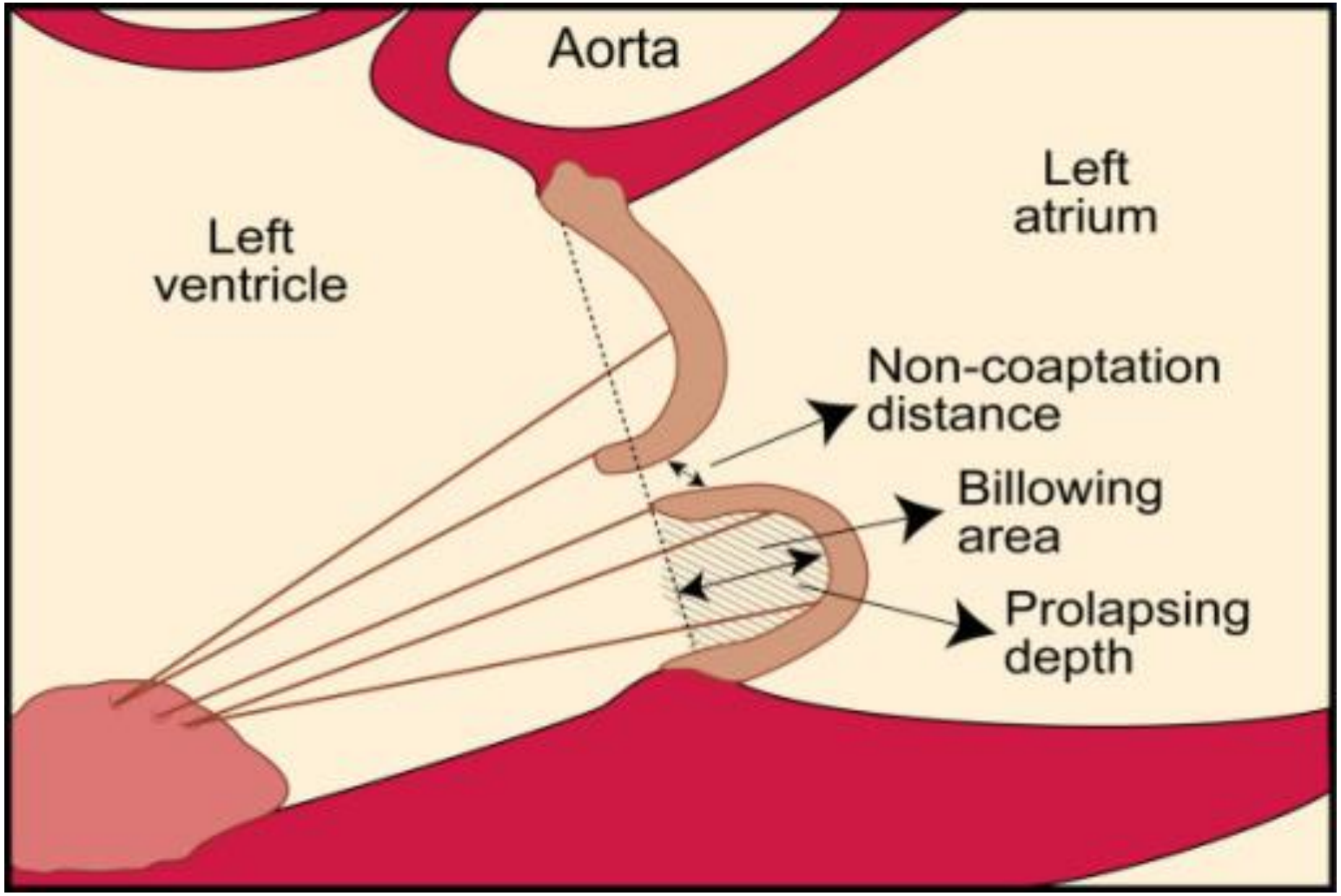
Mitral Regurgitation

- The mitral valve is composed of the mitral annulus, the leaflets, the chordae tendineae, and the papillary muscles
- Abnormalities in any of these structures may lead to mitral regurgitation

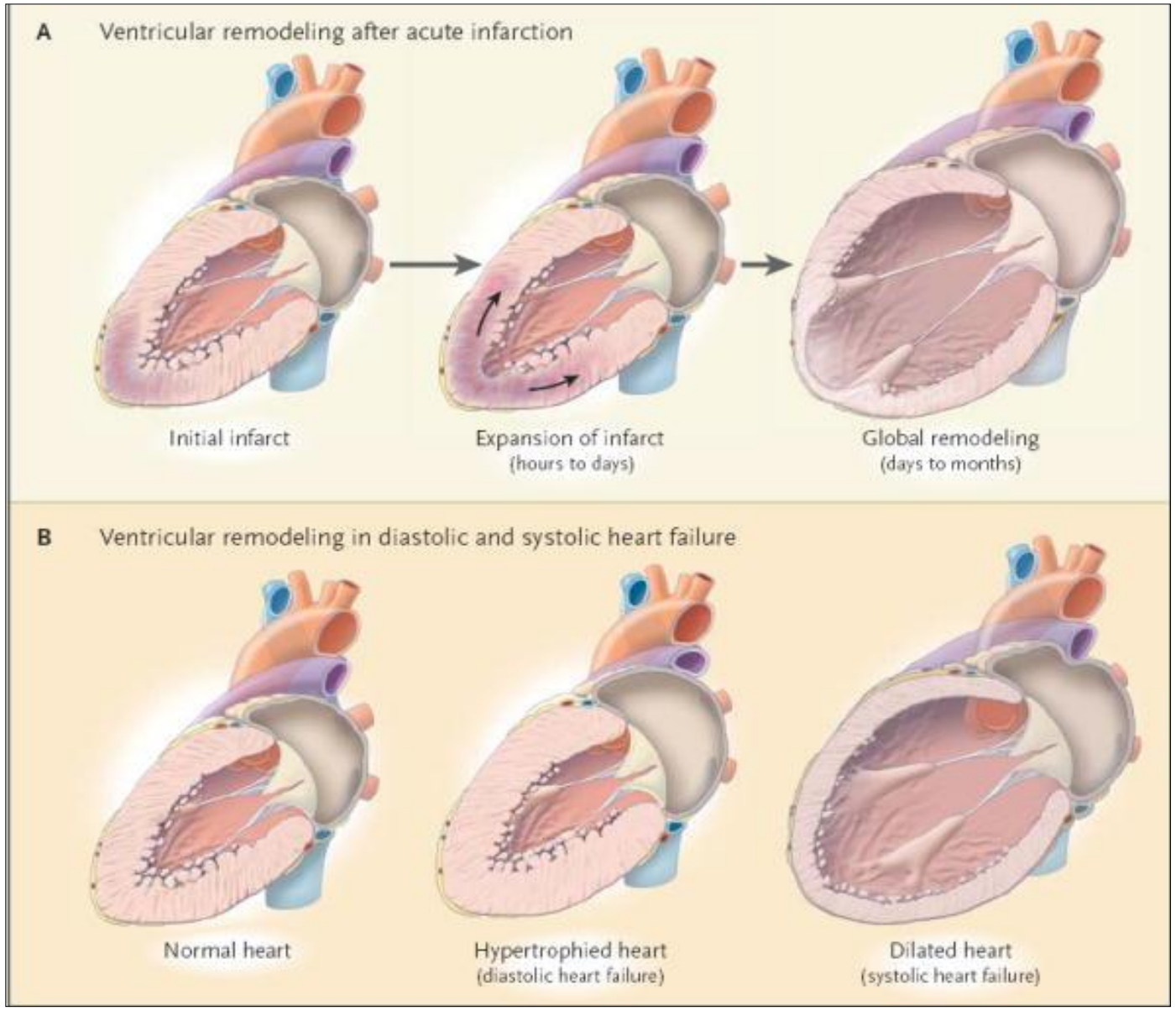
Mitral Regurgitation

- Causes
  - **Mitral valve prolapse**
  - Myocardial ischemia leading to papillary muscle dysfunction or infarction
  - Annular calcification
  - Endocarditis
  - Collagen vascular disease
  - Rheumatic heart disease

Mitral Valve Prolapse



Slide from NIH in public domain at:
https://openi.nlm.nih.gov/detailedresult.php?img=PMC3296553_1476-7120-10-3-1&query=mitral+valve+prolapse&it=xg&req=4&npos=44



Jessup M, Brozena S, Heart Failure, N Engl J Med 2003; 348:2007-2018, May 15, 2003

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Mitral regurgitation and MVP
Key Points

- MR is the second most common murmur in family medicine
- MR most commonly results from MVP
- MVP does not need SBE prophylaxis
- Use the echocardiogram to assess degree of regurgitation, size of left atrium, and time valve surgery.

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Heart failure

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A patient presents for a routine evaluation for hypertension. She feels well and has no complaints. A 2-3/6 late sys murmur is heard and a subsequent echo shows an EF 33% with 2+ mitral regurgitation. What stage HF does she have?

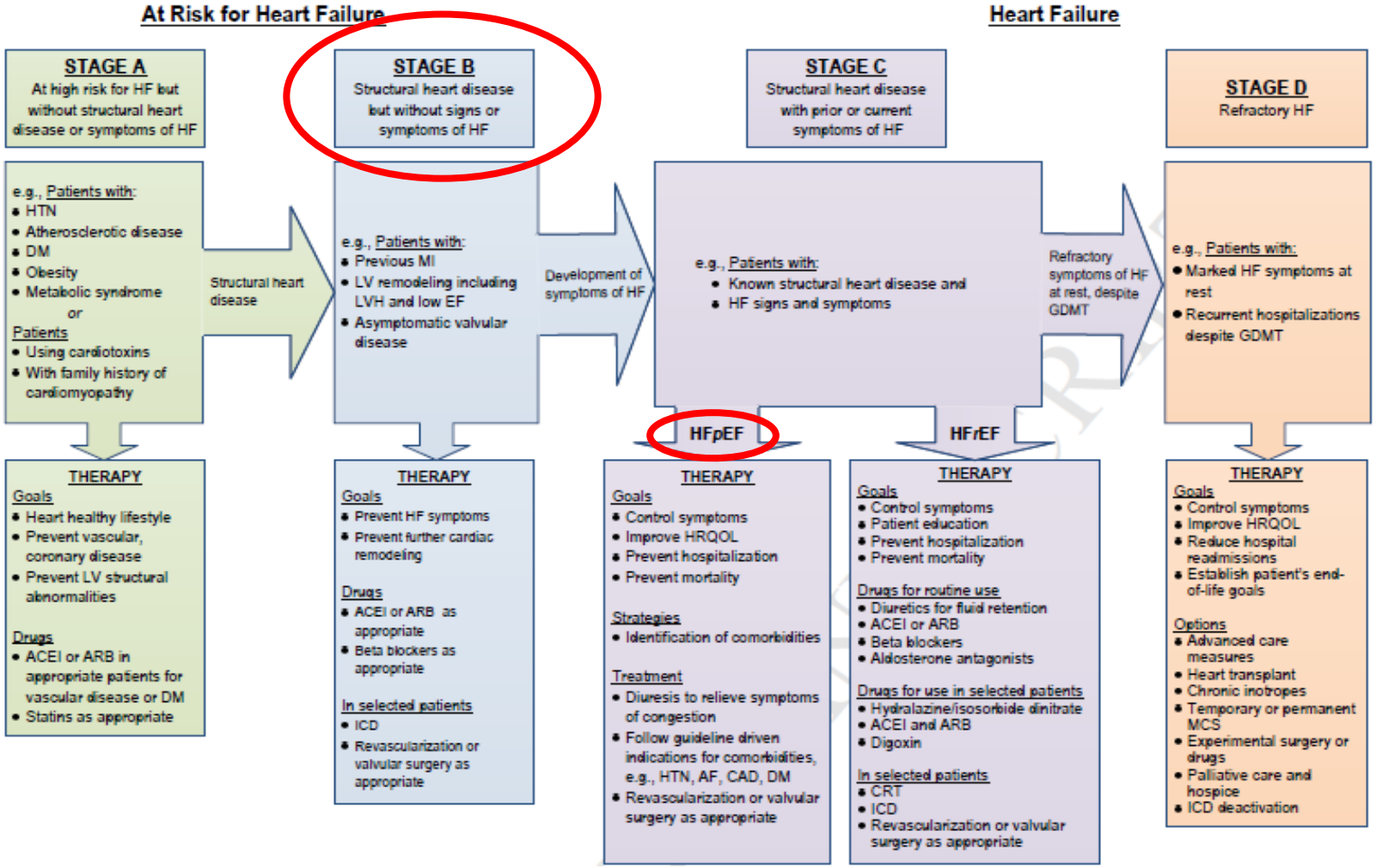
A. Stage A
B. Stage B
C. Stage C
D. Stage D

STAGE B

Structural heart disease but without signs or symptoms of HF

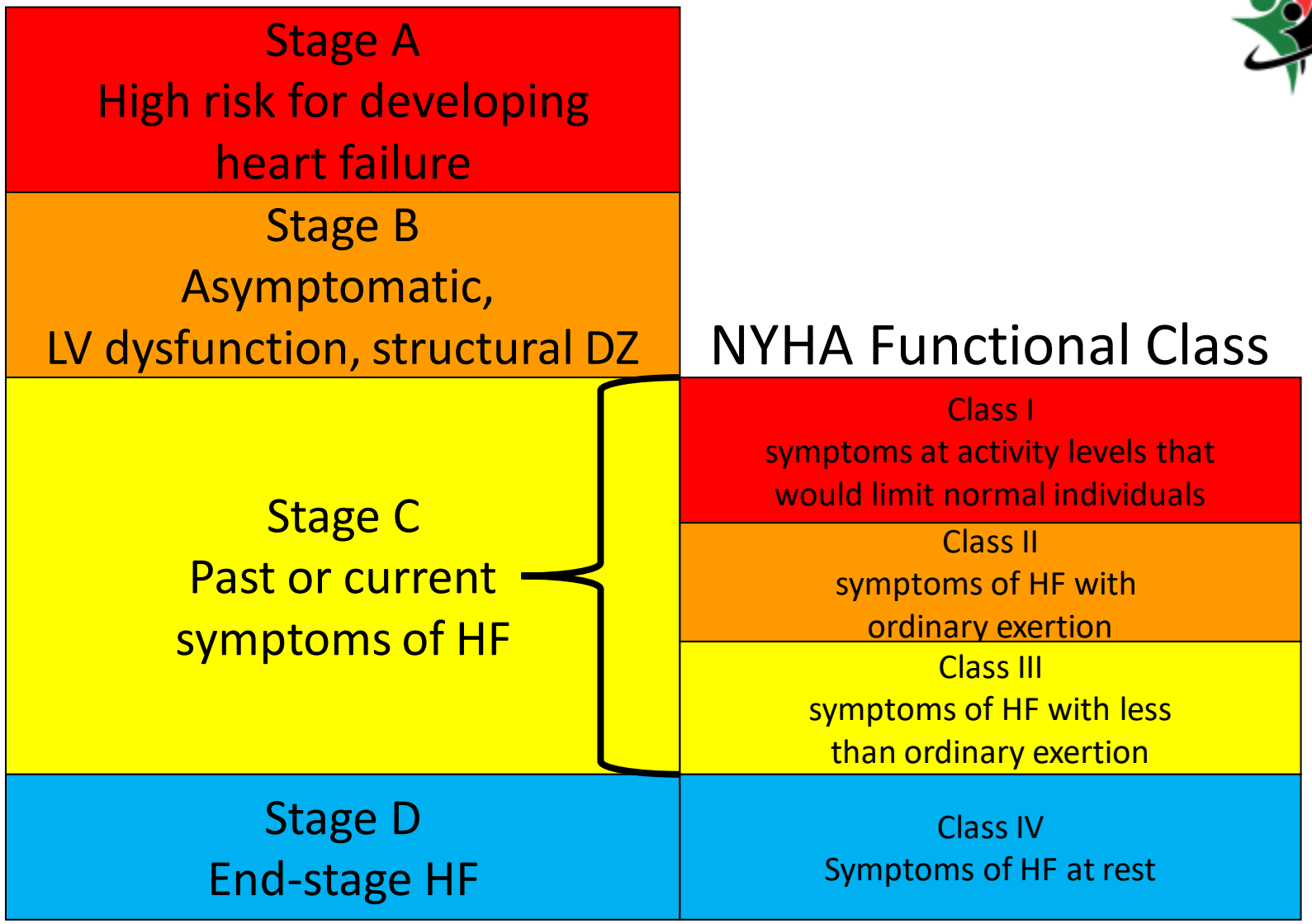
2013 Update

Yancy, CW et al.
2013 ACCF/AHA Heart Failure Guideline: Executive Summary



Yancy CW, Jessup M, Bozkurt B, et al, 2013 ACCF/AHA Guideline for the Management of Heart Failure: Executive Summary, Journal of the American College of Cardiology (2013), doi: 10.1016/j.jacc.2013.05.020

Stages of HF: ACC/AHA



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A 62 yo female has a history of heart failure with EF = 35%. She is not having chest pain but does have dyspnea walking more than 5 minutes. She is currently on lisinopril 40 mg daily and furosemide 20 mg bid. Which medication should be added to her regimen?

A. Carvedilol titrated to 25 mg bid
B. Metoprolol tartrate 50 mg bid
C. Atenolol 50 mg daily
D. Losartan 50 mg daily

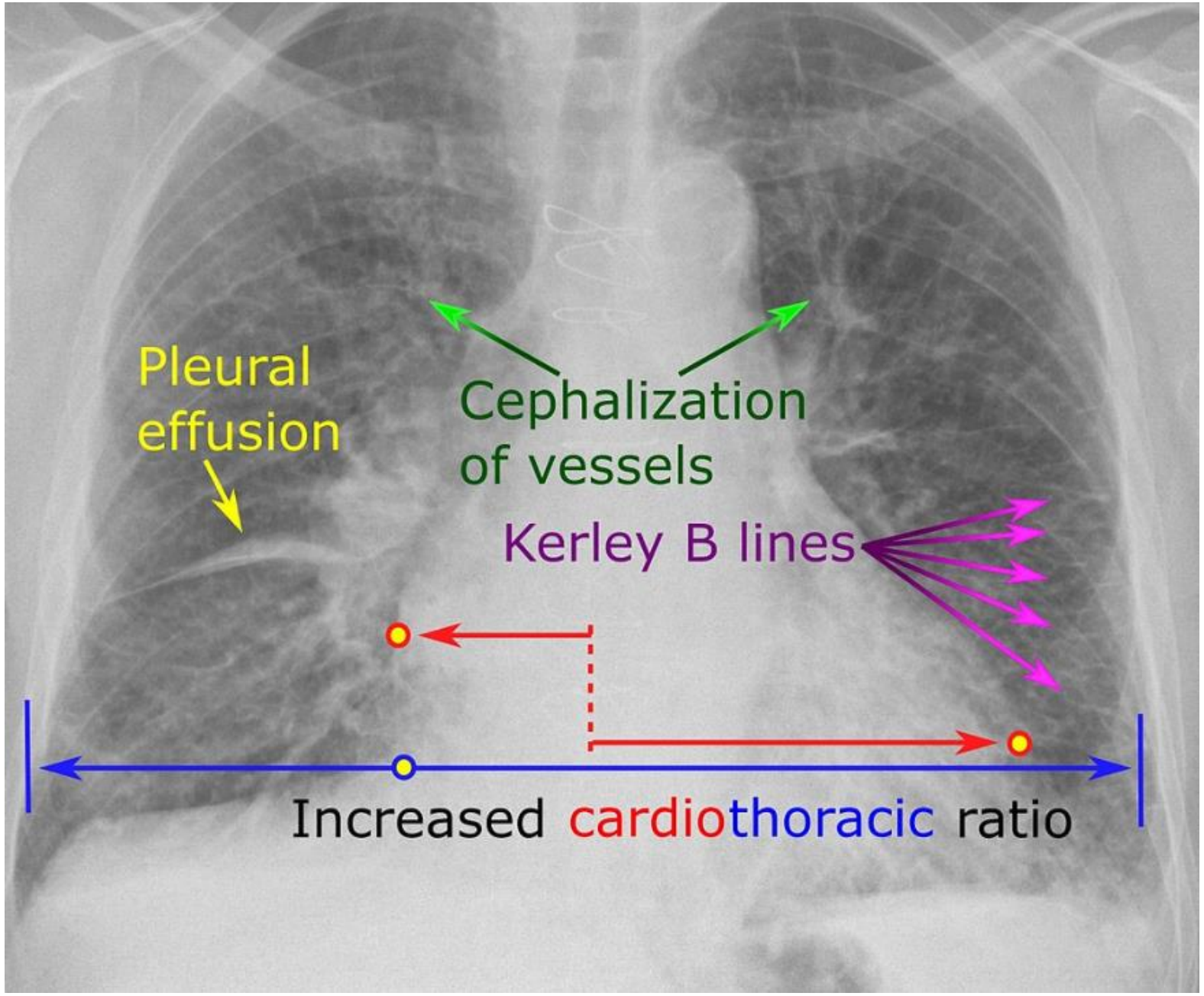
Correct answer is A

- Guideline-directed medical therapy (GDMT) for HFrEF is ACEI or ARB (not both) + BB for all patients. Loop diuretics can be added to help control edema.
- Additional medications can be considered after GDMT above is implemented.
- Losartan is not a good choice as an ARB should not be given with and ACEI without first adding a BB. (CHARM trials)
- The three BB that show benefit in treating HFrEF are:
  - Carvedilol, metoprolol succinate (once daily), and bisoprolol

Heart failure GDMT

- HFrEF: EF < 40%
  - ACEI/ARB + BB, +/- SGLT2(Empa- and Dapagliflozin)
  - Diuretics to help control fluid
  - Add spironolactone if sx not controlled
  - Add isosorbide dinitrate/hydralazine for self-identified Black patients
- HFpEF: EF > 50%
  - GDMT for all other conditions
  - Diuretics for fluid overload
  - Empagliflozin (EMPEROR-preserved trial) – 2021 data
- Device therapy for EF < 35%:
  - Implantable cardioverter defibrillator (ICD)
  - Cardiac resynchronization therapy (CRT) with LBBB and QRS > 150

Heart Failure CXR



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Heart failure new meds to consider

- Sacubitril/valsartan i of ACEI/ARB
  - Neprilysin inhibito
- Ivabradine/Corlanor
  - Patients on optimum GDM d pulse > 70
- Dapagliflozin and empagliflo
  - Not yet on ACC guideline
  - In patients on optimu ing sx → consider adding
  - Diabetics with HF

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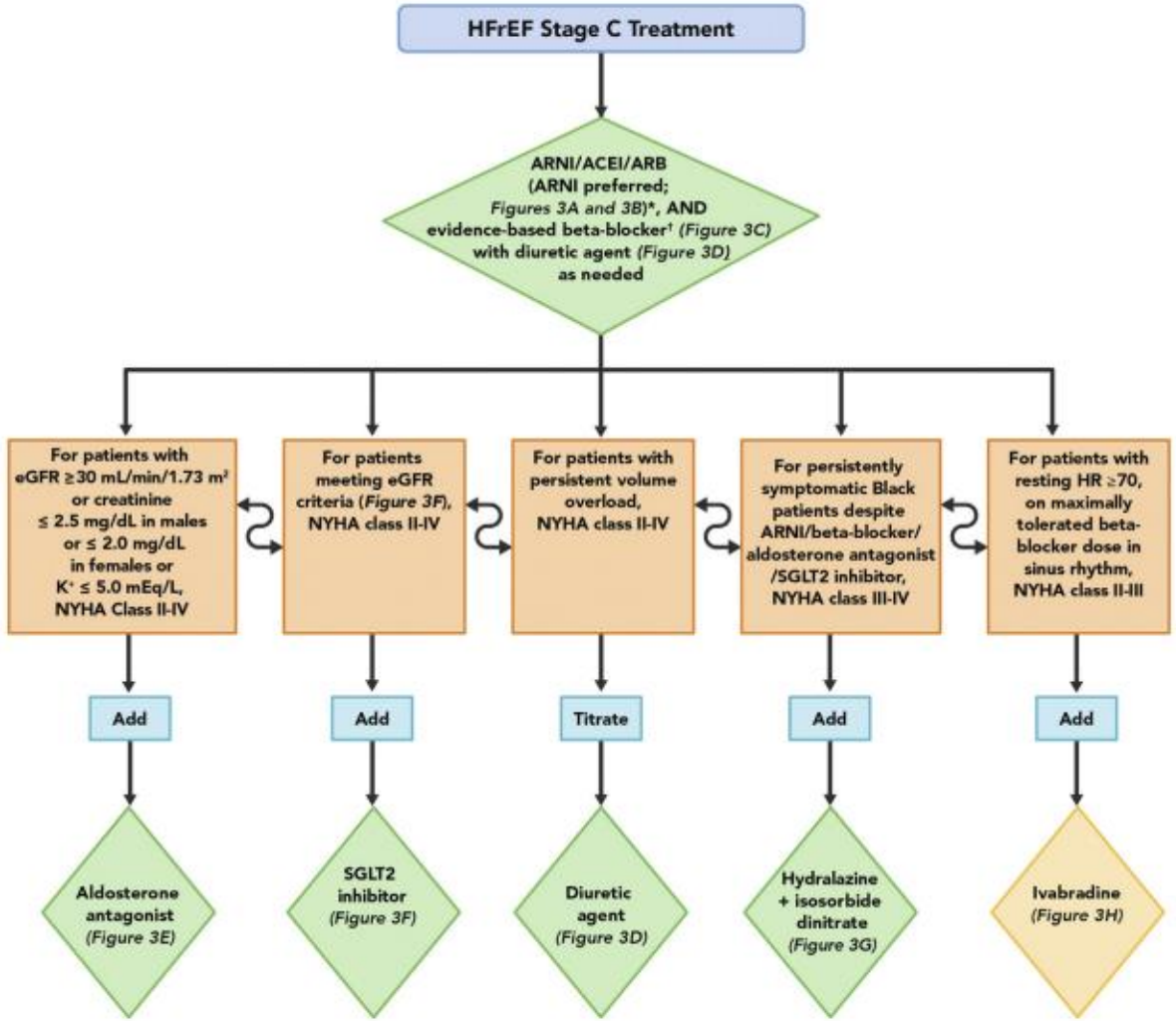
According to the April 2022 Heart Failure guidelines (ACC), in addition to a beta blocker and prn diuretic, what is the preferred initial medication to treat HFrEF stage C?

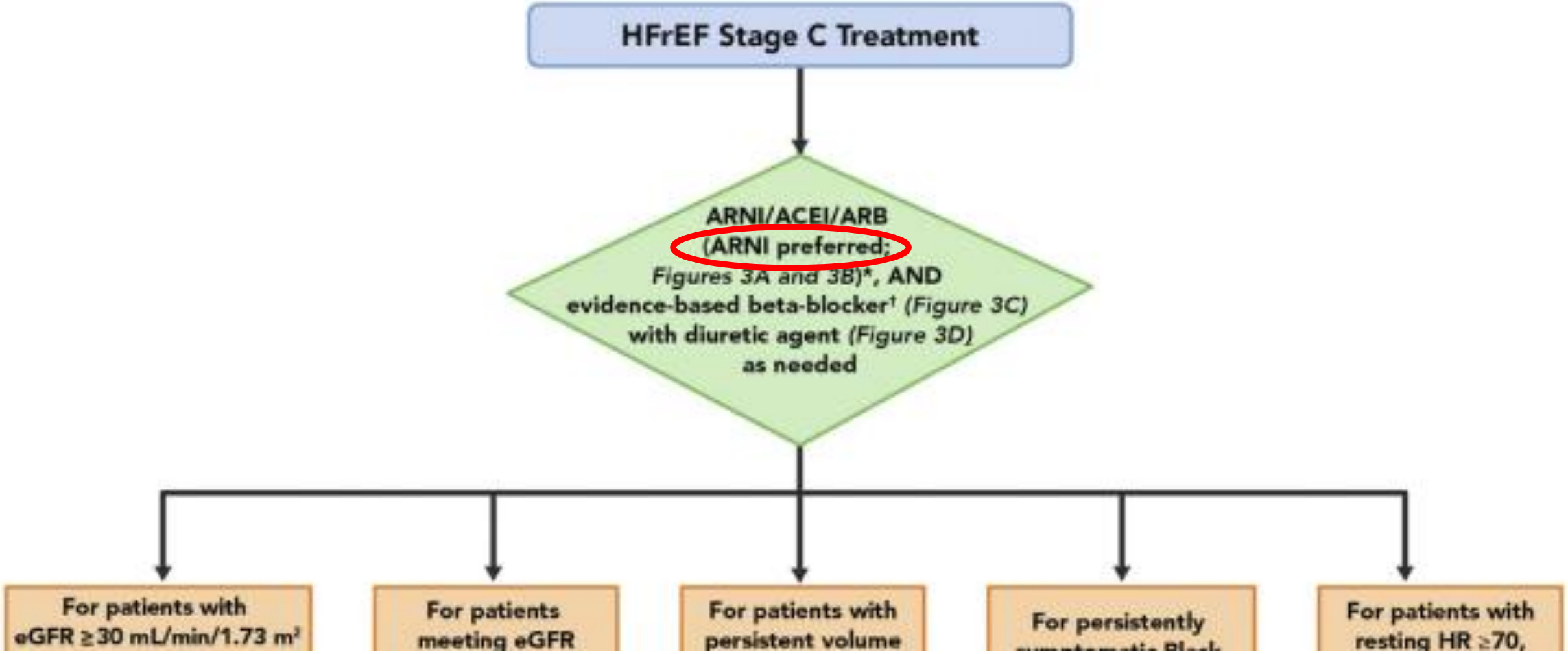
A. Spironolactone
B. Lisinopril, ramipril or another ACEI titrated as tolerated
C. Valsartan/sacubitril (ARNI) titrated as tolerated
D. Losartan, valsartan or other ARB titrated as tolerated



*ACEI/ARB should only be considered in patients with contraindications, intolerance or inaccessibility to ARNI. In those instances, please consult Figure 3 and text for guidance on initiation.

†Carvedilol, metoprolol succinate, or bisoprolol.

ACEI = angiotensin-converting enzyme inhibitors; ARNI = angiotensin receptor-neprilysin inhibitors; ARB = angiotensin receptor blocker; eGFR = estimated glomerular filtration rate; HFrEF = heart failure with reduced ejection fraction; HR = heart rate; K⁺ = potassium; NYHA = New York Heart Association; SGLT2 = sodium-glucose cotransporter-2.


HFrEF Stage C Treatment
ARNI/ACEI/ARB
(ARNI preferred;
Figures 3A and 3B)*, AND
evidence-based beta-blocker† (Figure 3C)
with diuretic agent (Figure 3D)
as needed
For patients with eGFR ≥30 mL/min/1.73 m²
For patients meeting eGFR
For patients with persistent volume
For persistently
For patients with resting HR ≥70,

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Nomenclature update
Ejection fraction in initial Echo in patient with HF

- Heart failure = HF (Not CHF…since 2005)
- EF < 40% → HFrEF (Heart failure with reduced ejection fraction)
- EF 41-59% → **HFmrEF (Heart failure with mildly reduced EF)**
- EF ≥ 50% → HFpEF (Heart failure with preserved EF)

Cardiomyopathies

- Hypertrophic CM
  - Young patient (teens – 30's) with syncope playing sports.
  - 2-3/6 systolic murmur
- Postpartum patient with persistent edema and dyspnea
  - Peripartum cardiomyopathy (not just postpartum)
- 65 yo female whose husband died 2 weeks previous now with acute signs/sx of heart failure. ST segment elevations in EKG.
  - Takotsubo's CM. Normal coronary arteries, most patients resolve
- COVID and other viral causes of CM
- Amyloidosis – restrictive CM, large tongue and eyelids
- 35 yo patient from Central/South America with HFrEF
  - Chagas' disease – Trypanosoma cruzi

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Hypertension

A 55 yo male presents with three BP readings averaging 154/94. His lab tests and other evaluations are all normal. He does not smoke. Which of the following medications is a preferred initial therapy?

A. Furosemide 20 mg bid
B. Metoprolol tartrate 50 mg bid
C. Metoprolol succinate 50 mg daily
D. Amlodipine 10 mg daily

Correct answer is D

- Initial selection of medications for the treatment of hypertension include ACEI/ARB (preferring ACEI first), CCB (dihydropyridine), and thiazide diuretics.
- Furosemide is a loop diuretic and is not used to treat HTN – only removal of excess fluid (HF, venous insufficiency, lymphedema)
- Beta blockers, short or long acting, are no longer initial medications for isolated hypertension.

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A 63 yo female is treated with lisinopril 40 mg, nifedipine 90 mg and HCTZ 25 mg daily. Her BP continues to be high at 162/94. Assuming she is otherwise stable, which medication is best to add for resistant HTN?

A. Spironolactone 25-50 mg daily
B. Clonidine 0.2 mg bid
C. Minoxidil 10 mg bid
D. Atenolol 50 mg daily

Correct answer is A

- Spironolactone has been shown to be the best add on medication for resistant hypertension.
- Clonidine has the potential for rebound hypertension
- Minoxidil is a vasodilator and should be combined with a BB and diuretic to help balance the reflex tachycardia and potential edema that may ensue.
- Atenolol is a BB and no longer indicated as first line treatment for HTN. If adding a BB, both carvedilol and metoprolol would be better choices.


Friendly Florida,
Shake hands with a
manatee