

Diagnostic Dilemma

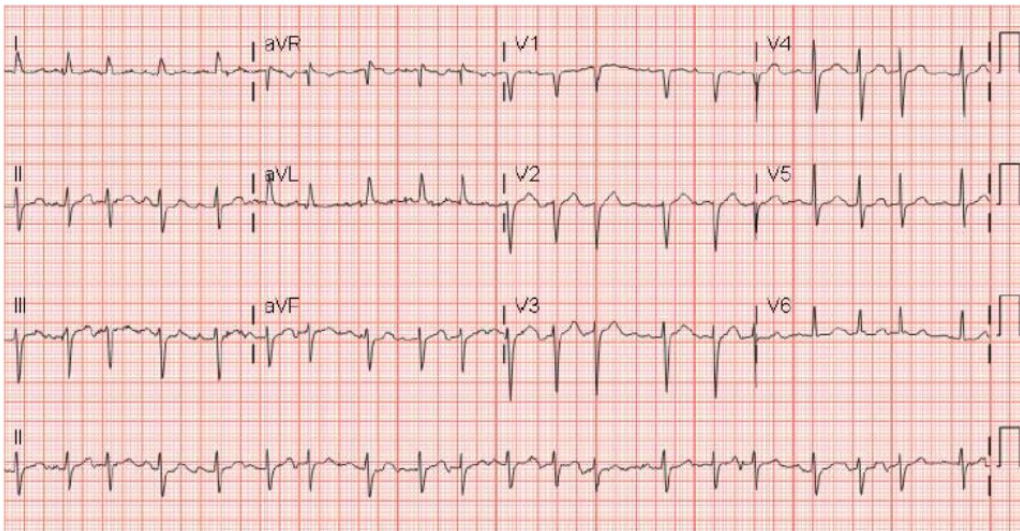
Sudharshan Balla, MD¹, Mary L. Dohrmann, MD²

¹Fellow, Division of Cardiovascular Diseases, University of Missouri Health Care

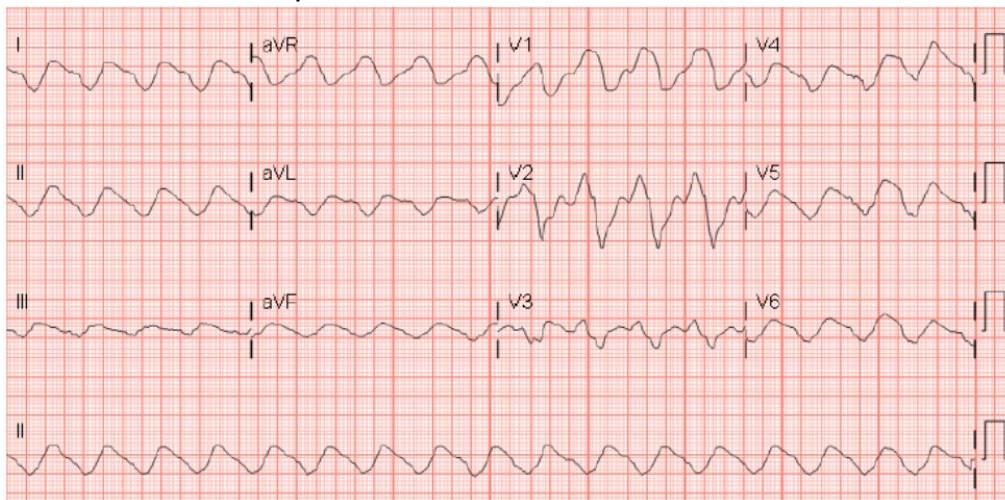
²Professor of Clinical Medicine, Division of Cardiovascular Medicine, University of Missouri Health Care

Questions:

- 1) A 68-year-old male was admitted for increasing shortness of breath. Past medical history was significant for COPD, rheumatoid arthritis and coronary artery disease. A few hours after admission he became increasingly short of breath. An EKG obtained at that time is shown below. HR was 140 bpm, BP 100/70 mmHg, pulse oximetry sat was 88% on 6 liters of oxygen via nasal cannula. What is the next best step in patient management?



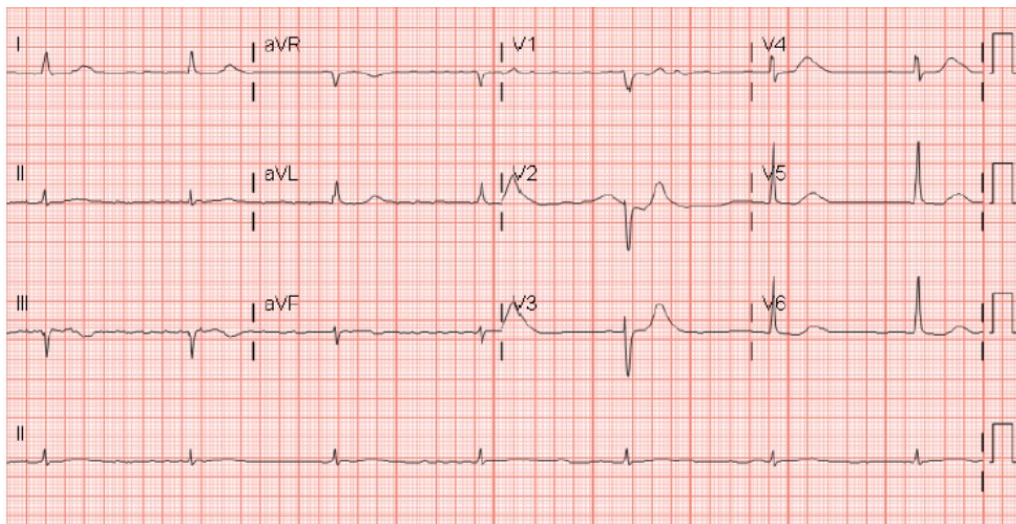
- A) Administer adenosine
 B) Perform DC cardioversion
 C) Administer amiodarone
 D) Improve oxygenation
- 2) A 45-year-old African American male presents to ER with increasing weakness. He has CKD stage V on chronic hemodialysis. His medications include lisinopril, amlodipine and clonidine for hypertension. EKG obtained at presentation is shown below.



What is the next best step in patient management?

- A) Obtain electrolytes
- B) Administer calcium gluconate
- C) Emergent hemodialysis
- D) IV magnesium

3) A 55-year-old male with history of congestive heart failure, hypertension and ischemic cardiomyopathy is admitted for nausea, vomiting and diarrhea of 2 days duration. EKG was obtained and is shown below.



What is the most likely cause of the EKG findings?

- A) Electrolyte imbalance
- B) Drug related
- C) Myocardial ischemia
- D) Pericardial effusion

Answers on page: 12

ASK A PATHOLOGIST

Emily Coberly, MD, Magda Esebua, MD
University of Missouri Health Care

QUESTION: My patient has a palpable neck mass that is suspicious for malignancy, and I am considering ordering a fine needle aspiration (FNA) versus a core needle or open biopsy. Which type of biopsy will have the fastest result from pathology?

Contact:

umhsintmedmohospital@health.missouri.edu

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Diagnostic Dilemma

Answers:

1) D

ECG reveals multifocal atrial tachycardia. Multifocal atrial tachycardia is due to increased automaticity. It is diagnosed with the following criteria: heart rate >100 bpm and 3 different morphology of P waves. Varying PP, PR and RR intervals are also noted. Treatment includes treating underlying cause of hypoxia.

2) B

Sine wave pattern suggestive of hyperkalemia is seen on EKG. Sine wave pattern indicates potassium level > 8 meq/dl. Although options A and C are reasonable, the first step would be to administer calcium gluconate to stabilize membrane potential followed by emergent hemodialysis.

3) B

This EKG shows atrial fibrillation with junctional or AV nodal escape rhythm. Digitalis toxicity should be suspected whenever a patient with atrial fibrillation has regular bradycardia. Digitalis increases the refractoriness of AV node and in digitalis toxicity can cause a complete heart (AV nodal) block and AV nodal escape rhythm.

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