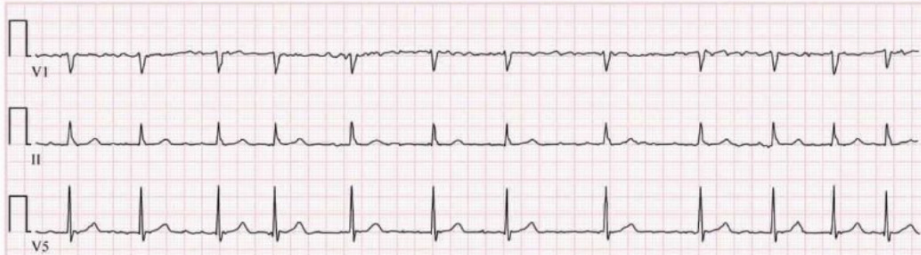


3

A 66-year-old man presents to the office with complaints of heart palpitations for the past two weeks. His medical history includes coronary artery disease, hypertension, and type 2 diabetes mellitus. Physical examination reveals an irregular pulse rhythm. An ECG is shown in the exhibit. What is the diagnosis?

*



Atrial fibrillation

- P wave : absent , no distinct p wave.
- QRS : normal shape but irregularly spaced.

4

A 76-year-old man with coronary artery disease presents to the office for a follow-up visit 6 months after an uncomplicated coronary artery bypass graft (CABG) surgery. He reports that the exertional chest pain that bothered him prior to surgery has completely resolved. His medical history includes hypertension, diet-controlled type 2 diabetes mellitus, and gout. An ECG obtained in the office is shown in the exhibit. What is the diagnosis *



Atrial flutter

- The atrial rate exceed 250 bpm.
- Strong P waves with sawtooth appearance
- The ventricular repolarization is regular
=> 75 bpm (4:1).

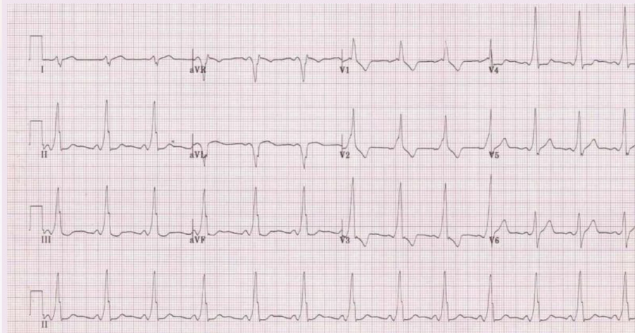
A 28-year-old woman presents to the emergency department with complaints of palpitations and a sensation of her heart racing for the past 3 hours. Over the past year, she has experienced similar episodes that resolved with deep breathing, but this current episode has lasted longer. She has no chronic medical conditions and takes no medications. The patient denies the use of tobacco, alcohol, caffeine, or illicit drugs. Her vital signs are as follows: blood pressure 100/68 mm Hg and pulse 164/min, regular. An ECG is shown in the exhibit. What is the diagnosis? *



Supra Ventricular tachycardia

- HR = Rapid \Rightarrow 150-250 bpm.
- Regular rhythm.
- P wave: may be absent or buried in the QRS complex.

A 17-year-old boy presents to the emergency department with complaints of palpitations. He has experienced prior episodes of "chest fluttering" that were short-lived, but this episode is sustained. He is under significant stress as he prepares for school examinations. On examination, the patient appears diaphoretic and uncomfortable. His vital signs are as follows: blood pressure 110/75 mm Hg and pulse 210/min. Pulse oximetry is 99% on room air. An ECG is immediately obtained and shows a regular, narrow complex tachycardia. An intravenous bolus of medication is administered, resulting in the abrupt cessation of the tachycardia. A follow-up ECG is shown in the exhibit. What is the most likely diagnosis? *



RBBB

- wide QRS complex.
- RBBB.

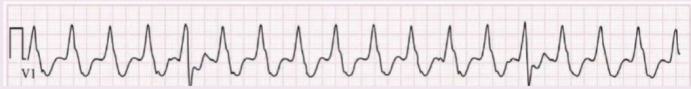
7

A 72-year-old woman presents to the emergency department with intermittent chest pain over the last 2 days, describing it as chest pressure associated with shortness of breath. She has never experienced similar symptoms. Her medical history includes hypertension and hyperlipidemia. Physical examination reveals no heart murmurs. An ECG shows normal sinus rhythm with T wave inversion in leads V4-V6. Her initial troponin I level is undetectable. However, two hours after the initial evaluation, she becomes unresponsive. Bilateral arm twitching is noted by the nurse, and a telemetry strip is shown in the image. What is the diagnosis? *



Ventricular fibrillation

A 64-year-old man is admitted to the hospital due to intermittent palpitations and lightheadedness for the past several days. He reports no chest pain or shortness of breath. His medical history includes coronary artery disease with prior myocardial infarction and percutaneous coronary intervention. His medications include metoprolol, lisinopril, aspirin, clopidogrel, and rosuvastatin. An echocardiogram reveals mild left ventricular dilation, a left ventricular ejection fraction of 30%, and no major valvular abnormality. Serum potassium is 4.2 mEq/L, and magnesium is 1.9 mg/dL. On day 2 of hospitalization, the patient develops sudden-onset and sustained palpitations. His blood pressure is 122/60 mm Hg, and his pulse is 120/min. He is alert and not in acute distress, with clear lungs bilaterally. An ECG rhythm strip is shown in the exhibit. What is the diagnosis? *

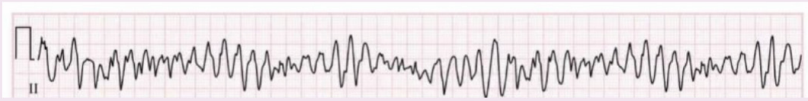


Monomorphic ventricular tachycardia

- The same increase to 200 bpm.
- wide QRS complex
- T wave become difficult to identify

9

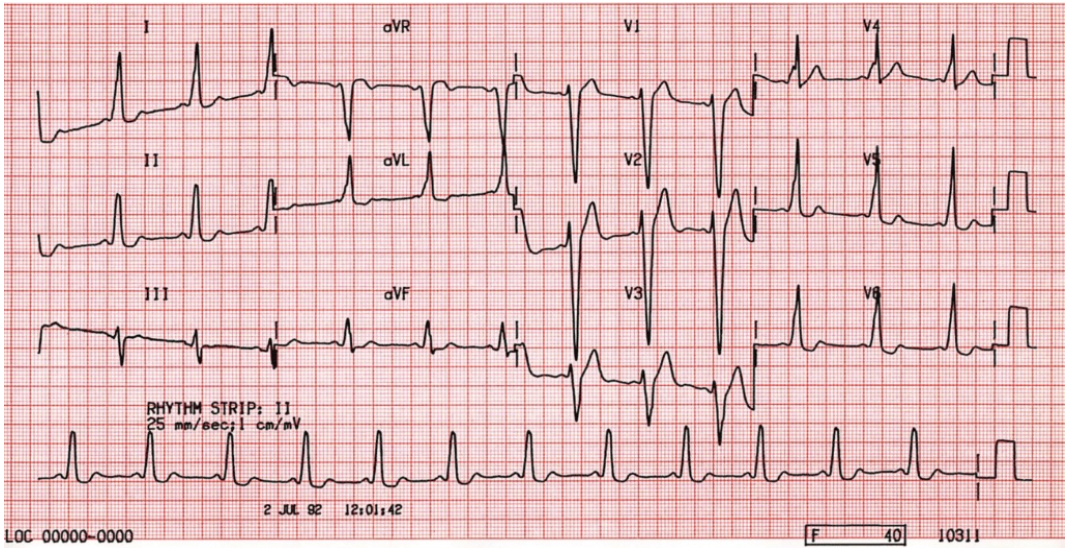
A 42-year-old man is admitted to the hospital with fever and shortness of breath. He has a history of chronic hepatitis C, HIV, and alcohol-induced cardiomyopathy. His temperature is 38.6°C (101.5°F), and thrush is noted in the oropharynx. A chest x-ray shows right lower lobe consolidation. He is started on fluconazole and moxifloxacin. Over the next 2 days, the pneumonia and thrush improve. However, on the third day, he develops palpitations that recur for 5-10 seconds at a time. A rhythm strip recorded during an episode of palpitations is shown in the exhibit. What is the diagnosis *



Polymorphic tachycardia (torsades de pointes)

- Polymorphic QRS complex
- preceded by prolonged QT.

*Extra photo



Diagnosis: WPW

- Key features \Rightarrow 1) Short PR interval < 0.12
2) wide QRS complex

- By Lujain Ahmad.