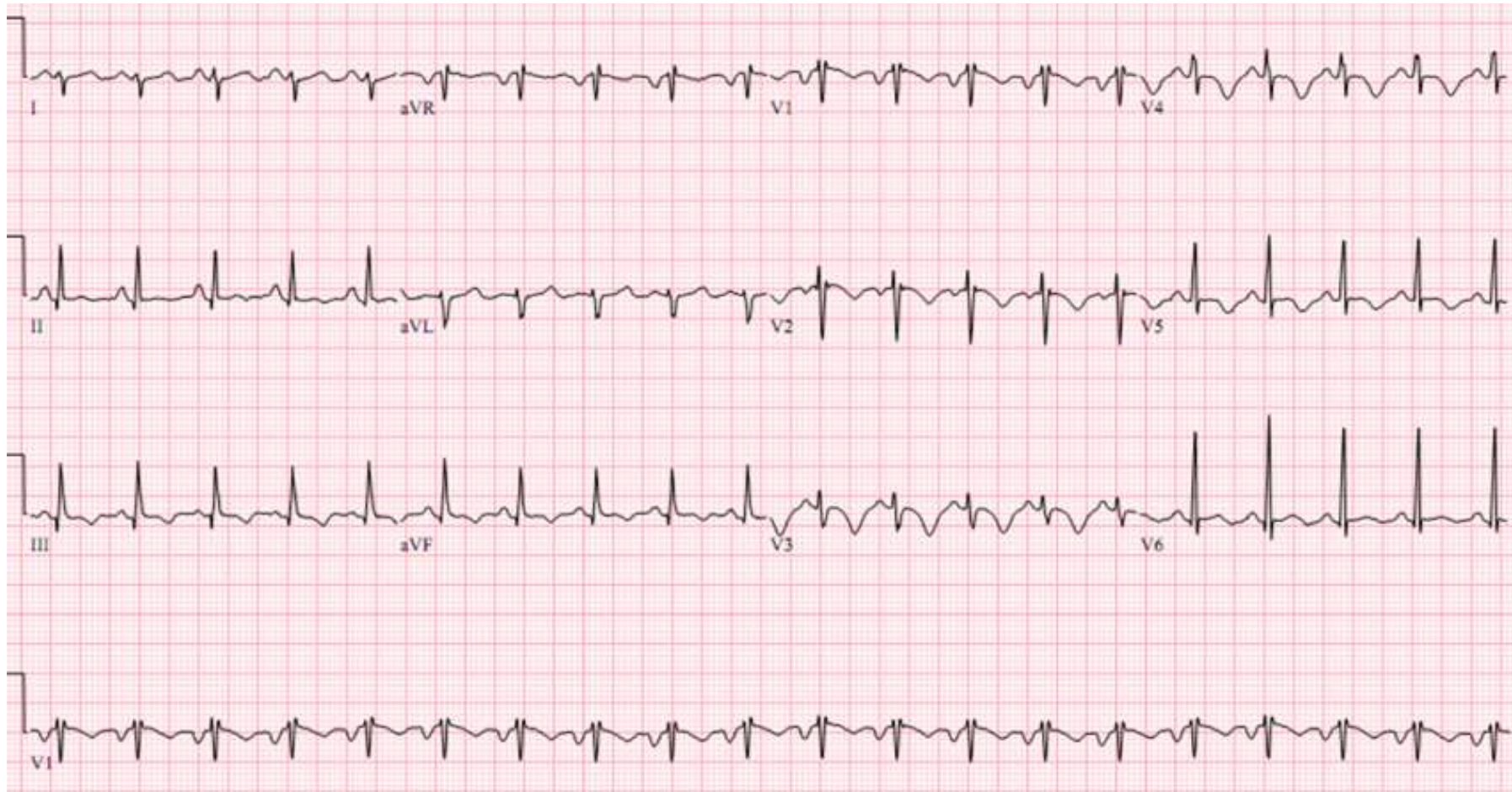


- Acute cor pulmonale, including pulmonary embolus

Pulmonary Embolus:



- ECG changes often accompany large pulmonary emboli (PE) and result from elevated pulmonary artery pressures, right ventricular (RV) dilation and strain:

- S1Q3T3 (S wave in lead I plus Q wave and inverted T wave in lead III) occurs in up to 30% of PE, and lasts for 1 to 2 weeks
- RBBB (incomplete or complete) may be seen in up to 25% of cases and usually lasts less than 1 week
- Inverted T waves secondary to RV strain may be seen in the right precordial leads and can last for months
- Other ECG findings include right axis deviation, nonspecific ST and T wave changes, and P pulmonale
- Arrhythmias and conduction disturbances include sinus tachycardia (most common arrhythmia with PE), AFIB, atrial flutter, atrial tachycardia, and first-degree AV block

Because ECG findings associated with acute PE are not specific; the clinical setting is usually key for making the diagnosis.

ECG abnormalities are often *transient*, and a normal ECG may be recorded despite persistence of the embolus. Sinus tachycardia, however, is usually present even when other ECG features of acute cor pulmonale are absent.

The clinical presentation and ECG of acute PE may sometimes be confused with acute inferior MI: Q waves and T wave inversions may be seen in leads III and aVF in both conditions. However, a Q wave in lead II is uncommon in PE and suggests the presence of MI.