

## Complete Atrioventricular Block Secondary to Acute Pulmonary Embolism: A Case Report

경상대학교 의과대학 내과학교실<sup>1</sup>

이유실<sup>1</sup>, 김무준<sup>1</sup>, 서창욱<sup>1</sup>, 김한결<sup>1</sup>, 김혜리<sup>1</sup>, 김계환<sup>1</sup>, \*박정량<sup>1</sup>

**Abstract:** While sinus tachycardia is the most common electrocardiogram (ECG) finding associated with pulmonary embolism (PE), other conduction abnormalities such as right bundle branch block (complete or incomplete) and rightward axis deviation of the QRS axis, along with T wave inversions in the right precordial leads, are also frequently documented. In this report, we present a patient who presented with a complete atrioventricular block (CAVB) as a complication of acute PE and required temporary pacing.

**Case:** A 91-year-old female with lightheadedness that later progressed to syncope presented to the emergency room. She had hypertension and no known history of underlying arrhythmias or cardiac problems. The initial vital signs showed a blood pressure of 77/63 mmHg, a pulse rate of 58 beats per minute, and a respiratory rate of 29 per minute. The physical examination revealed no signs of neurological problems, as evidenced by a Glasgow Coma Scale (GCS) score of E4M5V6. The initial 12-lead ECG revealed CAVB and frequent premature ventricular complexes (PVC) (Fig 1). The initial laboratory findings showed markedly elevated fibrinogen degradation product ( $>120$  ug/mL) and D-dimer ( $>20$  ug/mL), raising a high clinical suspicion of acute PE. Computed tomographic pulmonary angiography showed an enlarged right ventricle and multiple filling defects in the distal left main pulmonary artery (Fig 2). Echocardiography demonstrated right ventricular dysfunction. She was referred to radiology for catheter-directed thrombolysis using a recombinant tissue plasminogen activator. Transvenous pacemaker implantation was inserted via the right internal jugular vein. After her hemodynamic and symptomatic conditions were stable, the ECG showed sinus rhythm with the left bundle branch block (Fig 3).

**Conclusion:** We believe that acute PE could have caused an RBBB, which in the presence of an LBBB, led to the development of CAVB. Clinicians should be suspicious of a high-risk PE in case of complex conduction abnormalities and consider appropriate interventions promptly.

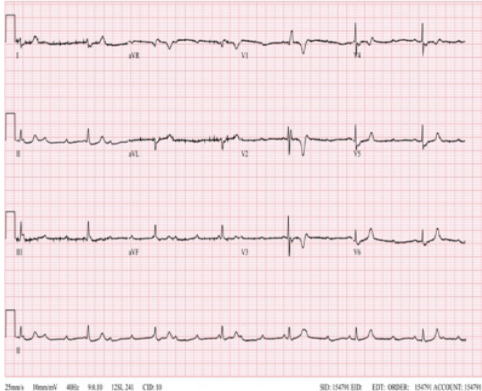


Fig 1



Fig 2

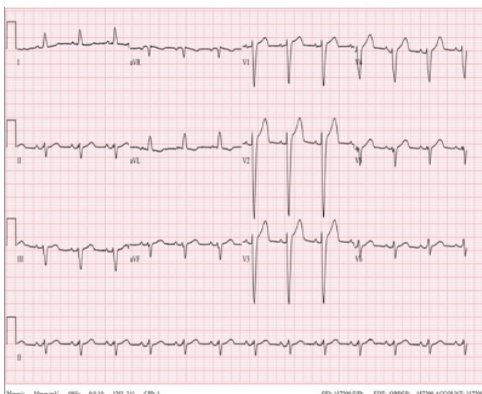


Fig 3