Pulmonary Embolism Masquerading as ST Elevation after Spontaneous Intracerebral Hemorrhage

Mohamed Gadoeh, MD; Sharon Chiang, PhD; Sophie Teng, MD; Doyle Yuan, MD; Syed Omar Kazmi, MD; Chethan Venkatusubba Rao, MD
Division of Vascular Neurology and Neurocritical Care, Department of Neurology, Baylor College of Medicine

**BACKGROUND**
- Pulmonary embolism (PE) is a fatal complication in neurological conditions with plegic extremities.
- Clinical presentations and supportive testing can be variable.
- We present a case of PE which presented with ST segment elevations two weeks after spontaneous intracerebral hemorrhage (sICH).

**CASE PRESENTATION**
- A 68-year-old female with a history of a recent sICH with resultant left hemiplegia who presented with a syncopal episode and chest pain.
- She was noted to be tachypneic and tachycardic with an unchanged neurological exam.
- Initial EKG showed ST segment elevations in leads I and V1-V3 which resolved spontaneously over an hour.
- Upon arrival to the Neuroscience ICU, CT scan of the chest demonstrated a saddle embolus with extension into the lobar branches.
- Bedside transthoracic echocardiogram demonstrated severe right heart strain with straightening of the interventricular septum consistent with McConnell’s sign.
- Lower extremity venous dopplers confirmed deep vein thrombosis in the left popliteal vein.
- Right heart catheterization revealed right atrial pressure of 7 mm Hg, right ventricular pressure of 41/4 mm Hg and pulmonary artery pressure of 41/12 mm Hg.
- She was treated with heparin infusion with a targeted partial prothrombin time (PTT) 1.5 x baseline and placement of an inferior vena cava (IVC) filter (Denalli Bard).
- Repeat CT of the head demonstrated an unchanged hematoma at fully therapeutic PTT (70-90 seconds) and subsequently she was transitioned to oral anticoagulation.

**REFERENCES**

**DISCUSSION**
ICH is the most devastating type of stroke with significant morbidity and mortality that may be related primarily to its direct brain injury or secondary to systemic complications result from immobilization such as bedsores, UTI, pneumonia and DVT/PE.

For PE reducing mortality by rapid diagnosis and treatment remains a challenge worldwide that because of the nonspecific symptoms and signs, such as chest pain, dyspnea and EKG changes.

Although EKG can help in the diagnosis of PE with changes such as tachycardia, T wave inversion and right ventricular strain but ST segment elevation as a manifestation of PE is very rare.

**CONCLUSIONS**
Pulmonary embolism can present with a variety of EKG abnormalities including ST elevations after sICH and the treating physician should be aware of these idiosyncrasies. Anticoagulation should be cautiously initiated in such cases.