PULMONARY EMBOLISM PRESENTING WITH REPETITIVE SEIZURES: A CASE REPORT.

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Abstract

Pulmonary embolism despite being a common occurrence continues to pose a diagnostic problem. This is mainly because of the wide array of symptoms and signs in its presentation. Interestingly, seizures with its numerous medical causes is an atypical but significant presenting symptom of pulmonary embolism. We describe the case of a 31 yr old female who presented with symptoms of seizures and was subsequently diagnosed of pulmonary embolism. Our emphasis is on the need for high index of suspicion for early diagnosis and prompt intervention.

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Introduction

Pulmonary embolism is a common problem which is associated with high mortality. Without treatment the mortality increases up to 30%. (2) This is due to delay in diagnosis attributable to its wide range of symptoms. Overall, pulmonary embolism related mortality is high, and in the United States, it causes 100,000 deaths annually. (6) These figures are likely to be more grave in developing countries and might be difficult to represent due to paucity of statistical data. It often results from dislodgement of a thrombus from the lower extremities to the pulmonary arteries with serious consequences.

Risk factors of pulmonary embolism include venous stasis, prolonged immobilization, obesity, surgery and trauma, malignancy, pregnancy and other hypercoagulable states. The challenge in dealing with pulmonary embolism is that patients rarely present with the classic symptoms of this problem, viz. the abrupt onset of pleuritic chest pain, shortness of breath and hypoxia. Studies suggest that many patients who died of pulmonary embolism often had atypical symptoms which were dismissed to be from other pathologies. Seizures on the hand are an atypical and rare presentation of pulmonary embolism. We herein discuss the case of pulmonary embolism presenting with seizures.

Case Report

A 31-year-old female presented to our emergency department with sudden onset of retrosternal chest pain which was dull in character, and was increasing in severity. There was no known aggravating or relieving factor. The pain was associated with breathlessness but no orthopnea or paroxysmal nocturnal dyspnea. There was also a striking history of 2 episodes of generalized tonic-clonic seizures that occurred one hour apart. Each episode lasted for about 30 seconds associated with transient loss of consciousness, few episodes of vomiting and upward rolling of the eyes. The patient was not a known epileptic and there was no history of substance abuse.

Furthermore, she had experienced painful swelling of the left leg for about 3 months which started after the removal of a surgical implant in her leg following open reduction and internal fixation which she underwent 4 years ago. She had a BMI of

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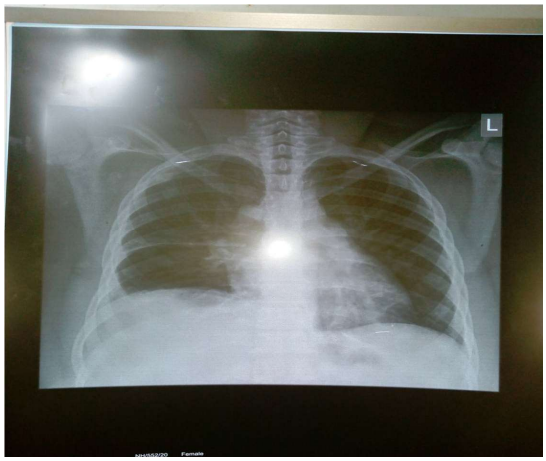
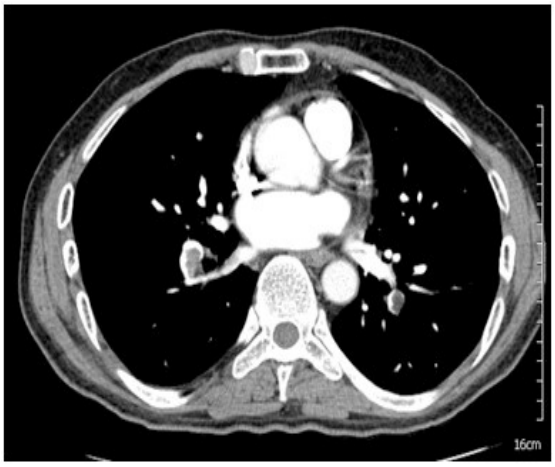
41.9 kg/m², afebrile with a temperature of 36.5c̊, pulse rate of 140 b/m and BP of 90/50 mmhg. She had an altered state of consciousness with obvious respiratory distress and oxygen saturation of 88% in room air, tachypnoeic with a respiratory rate of 38c/m. Chest findings revealed right basal coarse crepitations with normal air entry in all lung zones. Cardiovascular system examination showed S3 heart. Other system examinations were essentially unremarkable.

Levels of serum electrolytes, PT-INR, glucose, blood urea and creatinine, and complete blood counts were normal. Chest X-ray showed blunting of the right costophrenic angle and opacities at the right middle lung zone. ECG showed sinus tachycardia, normal axis with T wave inversion in lead III. Chest CT-angiogram showed a filling defect in the right and left pulmonary arteries at the lower lobes of the lungs highly suggestive of pulmonary embolism. Doppler ultrasound scan of the left lower limb showed intraluminal echoes in the left common femoral vein suggestive of venous thrombosis.

She was commenced on low molecular weight heparin, oxygen therapy, placed on compression stockings and was discharged after few weeks following gradual ambulation and remarkable clinical improvement. She has since been on regular clinic follow-up has had no recurrence.



Chest X-ray showing blunting of the right costophrenic angle and opacity at the right middle lung zone.



Chest CT- Angiogram showing a filling defect in the right and left pulmonary arteries.

DISCUSSION

Seizures is a relatively common presentation with a wide differential diagnosis. However, seizures developing secondary to pulmonary embolism are rare and could be fatal without prompt intervention. Acute pulmonary embolism presenting with new onset seizures occurs in less than 1% of cases. (4)

The classic triad of pleuritic chest pain, dyspnea and hemoptysis is rare, and clinically apparent DVT is present in only 11% of confirmed cases of pulmonary embolism in patients without underlying cardiopulmonary disease. (5)

The possible pathophysiology explains that seizures in pulmonary embolism was secondary to hypoxia, metabolic and respiratory acidosis in the setting of right heart failure, respiratory failure and transient cerebral hypoperfusion similar to a cardiogenic seizure mechanism. (3)

In our reported case, the patient was brought to the emergency department with generalized tonic-clonic seizures and

complaints of chest pain. She was not a known epileptic, had no history of substance abuse and no other neurological finding on physical examination. Further investigations showed hypoxemia, deep vein thrombosis and a filling defect on chest CT-angiogram which was highly suggestive of pulmonary embolism as a secondary cause of the seizures.

CONCLUSION

Pulmonary embolism presenting with repetitive seizures could pose some diagnostic difficulties. A high index of suspicion is needed by physicians in order to make accurate diagnosis for prompt intervention.

CONSENT

Informed consent was properly obtained from the patient for the publication of this case report.

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