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## A Case of Diffuse Alveolar Hemorrhage Induced by Epileptic Seizure

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**Introduction:** We present a rare case of diffuse alveolar hemorrhage due to negative-pressure pulmonary edema during epileptic seizure.

**Case Presentation:** A 25 years old woman admitted to the emergency room with mild hemoptysis after a syncope-like episode. She described episodes that began 6 months ago and have repeated with an increasing frequency up to four times in the last week, although she has been using antipsychotic drugs, prescribed by a neurologist, for two months. In the first physical examination she had confusion and respiratory distress. Oxygen saturation with pulseometer was 60%, heart rate 125/min, blood pressure 135/85 mmHg and temperature 36.6°C. Auscultation of breathing sounds and examination of the other organs were normal. Routine laboratory tests were normal, except for d-dimer (1177 ng/ml). There were respiratory acidosis and hypoxia in blood gas analysis. Cranial CT was normal. Chest radiography and high resolution thoracic CT revealed bilaterally diffuse ground glass opacities mainly centrally located, so that peripheral and costodiaphragmatic areas were relatively protected. Because of confusion and respiratory failure, we followed up the patient in intensive care unit. With symptomatic treatment and two liters nasal oxygen inhalation, she was stabil within 12 hours and hemoptysis did not repeat. After transportation to the pulmonary clinic, she had an absence seizure episode with confusion and disorientation. Electroencephalography confirmed epilepsy and antiepileptic treatment was begun. Bronchoscopy revealed no pathology except for mucosal hyperemia, while bronchoalveolar fluid was contaminated. Workup for acute infections, tuberculosis, vasculitis and all other causes of pulmonary hemorrhage was negative. The control chest radiography and blood gas analyses at the 36th hour were completely normal without any corticotherapy. During a six months follow up, she has presented neither seizure nor hemoptysis episode.

**Conclusion:** Diffuse alveolar hemorrhage induced by epileptic seizures is suggested to be associated with neurogenic pulmonary edema, autonomic dysfunction, increased capillary hydrostatic pressure and negative intra-thoracic pressure due to collapsed upper airway during the epileptic episode. Treatment consists of only antiepileptic medication and supportive respiratory care. Diffuse alveolar hemorrhage is a rare, but serious complication of epilepsy, that can resolve spontaneously, if epileptic seizure is well controlled.

**Keywords:** Diffuse alveolar hemorrhage, epileptic seizure, negative-pressure pulmonary edema, respiratory failure