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Editorial

An Editorial Note on Acute Pulmonary Edema

Veena Priyadarshini S*

School of Life Sciences, Crescent Institute of Science and Technology, Chennai, Tamil Nadu, India

EDITORIAL

Pulmonary edema occurs when fluid collects in the air sacs of the lungs, known as the alveoli, making breathing difficult. This disrupts gas exchange and can lead to respiratory failure. Pulmonary edema can be acute (beginning suddenly) or persistent (occurring more slowly over time). If it is severe, it is classified as a medical emergency that requires immediate attention. The most prevalent cause of pulmonary edema is congestive heart failure, which occurs when the heart cannot keep up with the body's needs. Treatment for pulmonary edema often focuses on restoring respiratory function and addressing the underlying cause of the condition. It usually entails giving more oxygen and using drugs to treat the underlying issues. If testing reveal that the pulmonary edema is caused by a circulatory system problem, the patient will be given intravenous drugs to help reduce fluid volume and manage blood pressure. To increase the patient's blood oxygen levels, oxygen is administered via a face mask or prongs, which are tiny plastic tubes in the nose. If a ventilator, or breathing machine, is required, a breathing tube may be inserted into the trachea. If testing reveals that the pulmonary edema is caused by a circulatory system problem, the patient will be given intravenous drugs to help reduce fluid volume and manage blood pressure.

The little air sacs in the lungs, known as alveoli, fill up with air during normal breathing. Carbon dioxide is released while oxygen is taken in. When the alveoli become flooded, pulmonary edema develops. When the alveoli are inundated, two issues occur: the bloodstream does not receive enough oxygen, and the body is unable to eliminate carbon dioxide. Pneumonia, sepsis (blood infection), and chemical exposure are all common causes organ disease that produces fluid accumulation – congestive heart failure, kidney failure, or liver cirrhosis, near-drowning, inflammation, trauma reaction to certain drugs, drug overdose, other reasons, other from acute lung injury, as in ARDS, include brain injuries such as brain bleeding, stroke, head injury, brain surgery, tumor, or seizure, and high altitude. Blood Transfusion from a Reliable Source.

Pulmonary edema is a potentially fatal illness, with an estimated 75000 to 83000 instances per 100,000 people suffering from heart failure and a poor ejection fraction. A study found an alarming 80 percent frequency of pulmonary edema in heart failure patients. It is a difficult condition, with a discharge rate of 74 percent and a one-year survival rate of 50 percent. Patients with congestive heart failure had an 85 percent death rate after six years of follow-up. Males are more likely to be afflicted than females, and the elderly are more likely to have pulmonary edema. The alteration in Starling forces causes a non-inflammatory type of edema in the cardiogenic form of pulmonary edema (pressure-induced). Normal pulmonary capillary pressure is 10 mm Hg (range: 6 to 13), but any factor that raises this pressure can cause pulmonary edema. Because of the negative pressure in extra-alveolar interstitial spaces, the alveoli are normally kept dry, but when there is: increased pressure/pooling, increased pulmonary venous pressure, increased pulmonary capillary pressure, fluid in interstitial spaces, increased pressure in interstitial spaces, fluid in alveoli (pulmonary edema). Pulmonary capillary wedge pressure can be measured, graded, and results in varied X-ray appearances.

Microscopy reveals the following main characteristics:

1. Thickening of the alveolar wall
2. Capillary dilation and interstitial edema
3. In the alveolar lumen, there is transudation (granular and pale eosinophilic).
4. Patients commonly present with shortness of breath, which can be acute (from minutes to hours) or progressive (over hours to days), depending on the cause of the pulmonary edema.

Symptoms

Acute pulmonary edema is characterized by the following symptoms:

Excessive shortness of breath that worsens with effort or after lying down, a sinking heart and drowning sensation/anxiety worsening when lying down, trying to catch a breath, Excessive sweating and dizziness, Coughing may be linked to increasing edema. In severe sickness, blood-tinged/pink-colored foamy sputum, Chest ache (myocardial infarction and aortic dissection) Skin that's cold and clammy.

Shortness of breath when exerted is a symptom of chronic pulmonary edema. Orthopnea, Paroxysmal nocturnal dyspnea, and sleep apnea Swelling of the lower extremities/body, gaining weight, Fatigue Ortner syndrome, which refers to hoarseness caused by recurrent laryngeal nerve compression due to an enlarged left atrial, may also be present in some patients.

Correspondence to: Veena Priyadarshini S, School of Life Sciences, Crescent Institute of Science and Technology, Chennai, Tamil Nadu, India, Tel: +9500084421, E-mail: veenapriya31@gmail.com

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