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A Brief Overview on Pulmonary Edema

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DESCRIPTION

Pulmonary edema is a disorder caused by an accumulation of fluid in the lungs. Lung water and pulmonary congestion are all terms used to describe this condition. Shortness of breath is a symptom of pulmonary edema, which happens when the body fails to obtain adequate oxygen. The most common symptom of pulmonary edema is difficulty breathing, but other symptoms such as blood in the cough, excessive sweating, anxiousness, and pale complexion can also occur. Orthopnea (inability to lie flat due to breathlessness) is a symptom of shortness of breath. These are common signs and symptoms of left ventricular failure-related persistent pulmonary edema. The onset of pulmonary edema may be accompanied by symptoms and signs of "fluid overload". This refers to the effects of right ventricular failure on the rest of the body and includes peripheral edema, raised jugular venous pressure, and hepatomegaly, which is characterized by an enlarged liver that is firm or even irregular.

It is typically cardiogenic (left ventricular), but fluid can build up owing to lung injury. This damage could be caused directly or indirectly by excessive pressures in the pulmonary circulation. Pulmonary edema can develop when mean pulmonary pressure rises above 25 mmHg, which is generated directly or indirectly by increased left ventricular pressure. Pulmonary edema can be classified into two types cardiogenic and non-cardiogenic.

In Cardiogenic the congestive heart failure is caused by the heart's inability to quickly pump blood out of the pulmonary circulation, resulting in pulmonary edema and an increase in fully determined. Left ventricular failure, arrhythmias, or fluid overload, such as from kidney failure or intravenous therapy can all cause to this. Hypertensive disruptions can produce pulmonary edema because an increase in blood pressure and afterload on the left ventricle obstructs forward flow resulting in an increase in wedge pressure and pulmonary edema. In Non-cardiogenic the pressure that is negative considerable negative pressure in the chest causes capillaries to break and flood the alveoli,

resulting in pulmonary edema. For general anesthesia the risk of negative pressure pulmonary edema is between 0.05 and 0.1 percent. Negative pressure raises preload, which raises pulmonary blood volume. A considerable rise in left ventricular afterload is also present resulting in a reduction in cardiac output. Pneumatic transudate pressures will rise as pulmonary blood volume rises and cardiac output falls. Neurovascular resistance rises as a result of all of this leading the intraventricular septum to move. The left ventricular diastolic failure that results from the ventricular septal shift raises pulmonary hydrostatic pressures even further.

Prevention

Controlling congestive symptoms effectively reduces pulmonary edema in those with underlying heart disease. Dexamethasone is commonly used to avoid pulmonary edema at high altitudes. Sildenafil is used to reduce altitude-induced pulmonary edema and pulmonary hypertension. It works by inhibiting phosphodiesterase, which increases cGMP, which causes pulmonary arterial vasodilation and inhibits smooth muscle cell proliferation. Despite the fact that this effect was only recently found, sildenafil is quickly becoming a common treatment for this illness.

Diagnosis

There is no single test that can determine whether pulmonary edema is the cause of dyspnea; there are numerous reasons of shortness of breath. A pulmonary shunt is suggested by low oxygen saturation and altered arterial blood gas values, which confirm the hypothesized diagnosis. Patchy alveolar infiltrates on the other hand are more commonly linked with non-cardiogenic edema. Lung ultrasonography, which is performed at the point of care by a healthcare professional, can also be used to identify pulmonary edema.