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Acute Hypoxemic Respiratory Failure

Jaclin perck*

Department of Paediatrics, Division of Respiratory Medicine, Inselspital, Bern University Hospital, University of Bern, Bern, Switzerland

Opinion

Acute respiratory failure occurs when fluid accumulates in the lungs' air sacs. When this occurs, your lungs are unable to release oxygen into your blood. As a result, your organs are unable to function due to a lack of oxygen-rich blood. Acute respiratory failure can also occur if your lungs are unable to remove carbon dioxide from your blood. Respiratory failure occurs when the capillaries, or tiny blood vessels that surround your air sacs, are unable to exchange carbon dioxide for oxygen properly. It is possible for the condition to be acute or chronic. Acute respiratory failure causes immediate symptoms due to a lack of oxygen in the body. In most cases, if not treated promptly, this failure can result in death.

Acute respiratory failure classifications

Hypoxemic and hypercapnic respiratory failures are the two types of acute and chronic respiratory failure. Both conditions can lead to serious complications, and they frequently coexist. Hypoxemic respiratory failure occurs when you do not have enough oxygen in your blood but your carbon dioxide levels are close to normal. Hypercapnic respiratory failure occurs when there is too much carbon dioxide in your blood and too little or no oxygen in your blood.

Symptoms

Acute respiratory failure symptoms are determined by the underlying cause as well as the levels of carbon dioxide and oxygen in your blood. People who have a high carbon dioxide level may experience the following symptoms:

- Confusion caused by rapid breathing
- People with low oxygen levels may experience the following symptoms:
- Bluish coloration in the skin, fingertips, or lips inability to breathe

People suffering from acute lung failure and low oxygen levels may experience the following symptoms:

- Restlessness
- Anxiety \sleepiness
- Consciousness lapse
- Rapid and shallow breathing, racing heartbeats, and irregular heartbeats (arrhythmias)
- Sweating profusely

Causes

Acute respiratory failure can be caused by a variety of factors, including:

Obstruction: When something gets stuck in your throat, it can be difficult to get enough oxygen into your lungs. Obstruction can also occur in people with chronic obstructive pulmonary disease (COPD) or asthma when the airways narrow due to an exacerbation.

Injury: An injury to your respiratory system that impairs or compromises it can have a negative impact on the amount of oxygen in your blood. A spinal cord or brain injury, for example, can have an immediate impact on your breathing. The brain instructs the lungs to take a breath. The lungs cannot function properly if the brain is unable to relay messages due to injury or damage. An injury to the ribs or chest can also impair breathing. These injuries have the potential to impair your performance.

Acute respiratory distress syndrome (ARDS)

Acute respiratory distress syndrome (ARDS) is a serious condition marked by low blood oxygen levels. ARDS affects you if you have an underlying health condition such as:

- Pneumonia
- Pancreatitis (inflammation of the pancreas)
- A traumatic event
- Sepsis
- Severe traumatic brain injury
- Injuries to the lungs caused by inhaling smoke or chemical products

Drug or alcohol abuse: Overdoes or excessive alcohol consumption can impair brain function and impair your ability to breathe in or exhale.

Chemical inhalation: Acute respiratory failure can also be caused by inhaling toxic chemicals, smoke, or fumes. These chemicals have the potential to cause injury or damage to the tissues of your lungs, including the air sacs and capillaries.

Stroke: A stroke occurs when tissue death or damage occurs on one or both sides of the brain. Often, it only affects one side. Although there are some warning signs of stroke, such as slurred speech or confusion, it usually happens quickly. You may lose your ability to breathe properly if you have a stroke.

Infection: Infections are a frequent source of respiratory distress. Even in the absence of ARDS, pneumonia can cause respiratory failure. According to the Mayo Clinic, pneumonia can affect all five lobes of the lungs in some cases.

Treatment

- To help you breathe better, your doctor may prescribe pain relievers or other medications.
- If you can breathe adequately on your own and your hypoxemia is mild, an oxygen tank may be used to help you breathe better. If your condition necessitates the use of a portable air tank, they are available.
- If you are unable to breathe adequately on your own, your doctor may insert breathing tube into your mouth or nose and connect it to a ventilator to assist you in breathing [1-5].
- If you require prolonged ventilator support, a tracheostomy, which creates an artificial airway in the windpipe, may be required.

***Address for Correspondence:** Jaclin perck, Department of Paediatrics, Division of Respiratory Medicine, Inselspital, Bern University Hospital, University of Bern, Bern, Switzerland, E-mail: Perck44@ispm.unibe.ch*

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- To help you breathe better, you may use an oxygen tank or a ventilator.

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