Lightning Learning: Acute Hypercapnic Respiratory Failure

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STOP!

Acute hypercapnic respiratory failure (AHRF) or **type 2 respiratory failure,** is a failure of ventilation leading to acute hypercapnia with an element of hypoxia.

AHRF is seen on an ABG and is defined as:

- PaCO2 > 6kPa
- pH < 7.35

The element of hypoxia can be corrected often with *supplemental oxygen to a target SaO_2 of 88-92%*

Hypercapnia can result in:

- Cardiac arrest
- Respiratory arrest
- Coma
- Seizures
- Arrhythmia

LOOK

AHRF can be life-threatening

Following maximal medical management, non-invasive ventilation can be used to improve patient's own respiratory effort.

Contraindications to NIV

Absolute:

- Severe facial deformity
- Facial burns
- Fixed upper airway obstruction
- Patient refusal

Relative:

- pH <7.15
- pH <7.25 and additional adverse features
- GCS <8
- Agitation/confusion
- Cognitive impairment

LEARN

Before starting NIV

➔ Discuss/document escalation plan & resuscitation status.

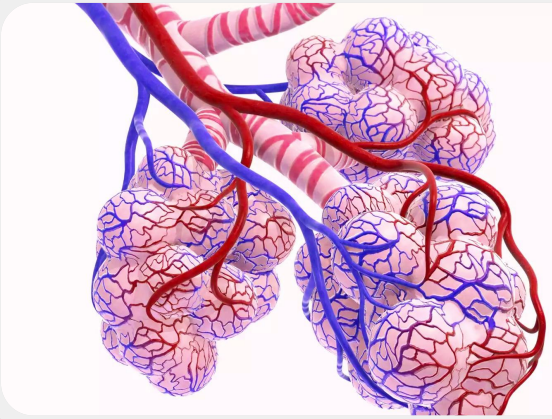
➔ Offer lidocaine for ABGs.

Further Reading

Guideline for ventilatory management
https://bit.ly/3lHmJz0 (BTS)

Use of NIV for COVID-19 patients
https://bit.ly/3dDkGcF (BTS)

Management flowchart for AHRF
https://bit.ly/3m4kcz0 (UHL)



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