Bedside Teaching Script for RRTs

Materials required: Venting Wisely Pathway Diagram

Beginning of script

There are steps that we can take to recognize and treat patients with hypoxemic respiratory failure and ARDS. HRF is defined as any patient with a P/F ratio of less than or equal to 300. ARDS is a subgroup of HRF and utilizes the Berlin definition for diagnosis.

The Venting Wisely Pathway utilizes the PF ratio—which is a validated and objective way of measuring oxygenation.

The goal of Venting Wisely is to prevent the progression of ARDS and minimizing VILI by providing evidence-based therapies and interventions.

The pathway is very RRT focused, but we need to remember that we work as a multidisciplinary team and collaboration is key to ensure the best care is delivered to our patients.

Let's orientate you to the Pathway:

Down the left side are the main elements of Measure, Screen, Manage, Monitor, and Basic/Advanced Interventions. You can also see how these steps are sub-grouped into- All patients, HRF & ARDS, and just ARDS. These steps become more targeted to treating the most acute patients.

Measure:

- Measure all patients admitted into the ICU (intubated or not). The rest of the Pathway focuses on mechanically ventilated patients only,
    - Measuring the patient enables us to obtain the PBW,
    - Recall that lung size doesn't change with actual weight, but height and sex.
- This will allow us to set safe ventilation targets, in other words: dose the tidal volume to 6-8 mL/kg PBW,
- **Goal**: Measure and document height within 1 hour of admission.

Screening:

- Observe the PF ratio by a homeostatic or clinical steady state ABG (typically early am with bloodwork).
- If PF ≤ 300, the patient has HRF.
- Obtain a CXR:
    - MD to observe if there are bilateral infiltrates not related to heart failure (non-cardiogenic pulmonary edema)
    - The Clinician does NOT need a CXR to progress through the pathway.

Manage:

- Controlled mode of ventilation.
- VT 6-8mL/Kg PBW,
- PPLAT ≤ 30 cmH2O,
- Driving Pressure ≤ 18cmH2O (PPLAT-PEEP)
    - Surrogate for total respiratory system compliance,
- Set daily oxygenation and ventilation goals,
- Set fluid balance goals neutral or negative.

Monitor:

- VT 6-8mL/Kg PBW,
- Pplat ≤ 30 cmH2O,
- Driving Pressure ≤ 18cmH2O
- Optimal PEEP Study with PF threshold of ≤ 200,
    - An optimal PEEP ensures an open lung is maintained. It is a considered a basic intervention and an order is not required (zone/site dependent).

Basic Interventions:

- Optimal PEEP studies,
- Recruitment maneuvers,
- Esophageal balloons,
- Sedation, RASS ≤ -3.

Advanced Interventions: (note the PF ratio thresholds)

- NMBA's (PF ≤150 consider, ≤100 strongly recommended),
- Proning (same PF thresholds as NMBA except with an FiO2 adjunct ≥ 0.60),
- Epoprostenol: Not proven to cause harm, but does not change outcomes,
    - Routine use not recommended.
- ECLS referral: only if all previous interventions attempted and there are no contraindications-(PF ≤100).