RESPIRATORY DISTRESS

BY: ODESSA OMANYO

Neonatal Nurse, KNH

Objectives

- Introduction
- Diagnosis of respiratory distress
- Respiratory distress evaluation
- Severity of respiratory distress (Mild, Moderate and Severe)
- Management or respiratory distress

Introduction

- The most common group of life-threatening diseases in newborns are respiratory in nature and represent a large population in NICU's.
- Common conditions include TTN, RDS, MAS, pneumonia, sepsis, pneumothorax, and delayed transition all which require investigations and close monitoring.
- Pulmonary disease, however, is not the cause of all RD in infants.
- Congenital malformations, metabolic abnormalities, CNS disorders and congenital heart disease may also present with RD.

Incidence

- Occurs in 4 – 6% of live births
- Common cause of morbidity and mortality
- Most of its risk factors and etiologies are preventable.
- Adequate follow-up of pregnancy and labor for timely intervention may improve the neonatal outcomes.

Diagnosis

Maternal history- pre-pregnancy, pregnancy, labour and delivery

Infant history- presenting signs, timing of presentation, physical exam, laboratory and x-ray

Note: In the post resuscitation period and/or while preparing an infant for transport, caregivers must continuously evaluate the degree of RD the infant is experiencing so as to give appropriate support to prevent respiratory failure

Patient evaluation and monitoring

- Patient should be monitored frequently and observation recorded. Patient categorization is key.

1. **Category A-** babies on oxygen, CPAP, who are acutely ill and unstable and require high level care. Require 15min-1hourly monitoring.

2. **Category B-** babies who are stabilizing but may still be ill and need close monitoring. May be at risk of apnea. Require 3-4 hours monitoring.

3. **Category C-** babies who are stable requiring only monitoring only after stepping down from category B

Evaluate and record

- Vital signs- observation chart
- Color
- Oxygen saturation and location of the probe
- The mode of oxygen delivery and how much
- Other signs of well being-urine output, CNS status etc.

Respiratory Distress evaluation

- When determining the severity of RD evaluate the following:

1. Respiratory rate

- There shouldn’t be any difficulty i.e. no grunting, flaring or retractions. Chest should be clear with equal air entry.
- Normal 30-60/min. Tachypnea>60/min; Bradypnea<30/min
- A very sick infant may develop gasping respirations which may progress to apnea; a sign of impending cardio-pulmonary arrest.

Evaluation Cont’

2. Increased work of breathing

Apart from abnormal RR, other signs may include

- **Nasal flaring-** attempt to reduce airway resistance
- **Grunting** - attempt to increase FRC when there is collapse of the alveoli
- **Retractions** – occurs in inspiration and reflect abnormal inward movement of the chest as the infant tries to increase tidal volume.

Cont’

Oxygen saturation

- It is the percentage of hemoglobin carrying oxygen.

- Pulse oximetry is the method of monitoring the oxygen saturation. Sites include the palm, wrist, or foot. To start with, it should placed at the right palm (pre-ductal), then at the right radial artery then at the foot(post-ductal)

Note: if there is a difference of > 10% saturation between the 2 sites that is preductal is 10% higher or lower than the foot, then it should be reported- PPHN.

Severity of respiratory distress

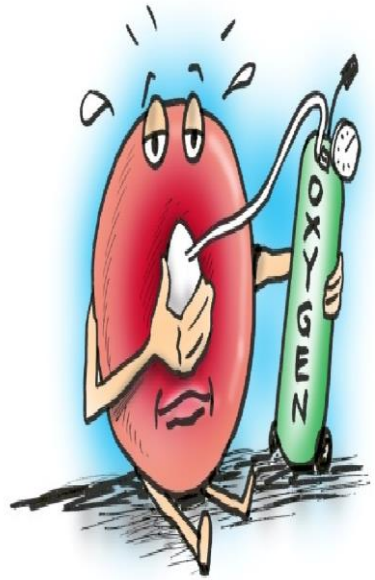
Mild- consists of a rapid respiratory rate with or without the need for supplemental oxygen and with or without signs of distress such as nasal flaring

Moderate- infant is cyanotic on room air and has additional signs of respiratory distress such as grunting and retractions

Severe- infant is struggling to breath and has difficulty in maintaing an acceptable saturation despite supplemental oxygen, has an abnormal blood gas indicative of respiratory failure.

Management of respiratory distress

- Supplemental oxygen with a blender at 21% and escalate until the SPO_2 are between 90%-95%.
- CPAP- adequate respiratory effort, increased work of breathing, mild CO_2 retention from BGA <55-60mmHg.
- Positive pressure ventilation when gasping to reverse the hypoxic state.
- If heart rate is not improving and is <100/minute, then the patient should be inserted a laryngeal mask airway and PPV continued or intubated. Once intubated, assessment of the ETT should be done by using DOPE acronym.



Summary

- Caregivers must continuously evaluate the degree of respiratory distress that the infant is experiencing so that appropriate support can be provided to prevent respiratory failure

- Infants may progress from mild-moderate-severe respiratory distress very fast….. Let’s be vigilant!

Thank you!!!!!