Respiratory Distress in the Late Preterm

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Dave Hampton is employed by ONY, Inc.
STABLE and NRP

This program is not intended to be a substitute for either of these programs.
Fetal Lung Development

- Lung Fluid
- Fetal Circulation
- Delivery and Transition
Hypoxia and Pulmonary Vasoconstriction
Clinical Signs of Respiratory Distress

- Tachypnea
- Grunting, Retracting, and Nasal Flaring
- Cyanosis
- Hypotonia
- Tachycardia
Disease Processes

- Transient Tachypnea of the Newborn
- Respiratory Distress Syndrome
- Pneumonia and Sepsis
- Persistent Pulmonary Hypertension
- Air leaks
- Congenital Heart Disease
Disease Processes

- Congenital Diaphragmatic Hernia
- T-E Fistula
- Pierre-Robin Syndrome
- Choanal Atresia
- Congenital Hypoplastic Lungs
- Hypoglycemia
- Hypoxic Ischemic Encephalopathy
- Other (temperature)
More Disease Processes

- Pulmonary Hypoplasia
- Pulmonary Edema/Hemorrhage
- Pleural Effusion
- Vascular Ring
- Cysts and Tumors
- Phrenic Nerve Paralysis/Eventration
- Osteogenisis Imperfecti
Transient Tachypnea of the Newborn
Etiology and Pathophysiology

Failure of the fetal lung fluid to clear
Pertinent Clinical Clinical Information

- History
- Vitals
- Breath Sounds
- X-Ray
Key Points

Getting Better or Getting Worse

Feeding or IV (watch that blood sugar level)

If this infant is still sick @ 24 hours of age, it’s not TTN

Thermoregulation, lab work, etc.
Treatment and Stabilization

Time
Oxygenation and Ventilation
Supportive Care
Respiratory Distress Syndrome
Etiology and Pathophysiology

Lack of surfactant production
Surfactant inactivation
Other
Pertinent Clinical Information

Respiratory Status
Vital Signs
Lab Work
X-Ray
History
Infant of a Diabetic Mother
Treatment and Stabilization

Respiratory Status
Nutrition
Surfactant Replacement Therapy
Supportive Care
Pneumonia and Sepsis
Etiology and Pathophysiology

Inflammation of the lung caused by either an invading pathogen or chemical aspiration
Pertinent Clinical Information

Maternal history
Cultures
Respiratory status
Vital signs
History of illness
X-Ray
Color
BEWARE OF PPHN
Treatment and Stabilization

Antibiotics
Respiratory
Supportive
Persistent Pulmonary Hypertension of the Newborn
Etiology and Pathophysiology

- Failure of the fetal shunts to close post delivery
- Hypoxemia
- Pulmonary vasoconstriction
Pertinent Clinical Information

Is there an underlying disease process?
Tachypnea
History
X-Ray and lab
ECHO
BEWARE!! Oxygenation and blood pressure are very labile
Treatment and Stabilization

Oxygen, Oxygen, Oxygen
Prone positioning
Supportive Care
Sedation
Other therapies
ECMO Center
Air Leaks
Etiology and Pathophysiology

Air leak at the terminal or respiratory bronchiole allowing air to escape to the pleural space
Pertinent Clinical information

Tachypnea with mild respiratory distress
Breath sounds
Translumination and X-Ray
Usually not life-threatening
Treatment and Stabilization

Nitrogen Washout
Supportive Care
Chest tubes??
Positive Pressure??
Congenital Heart Disease
Differential Diagnosis

Mild to Severe Respiratory Distress
Failure of oxygen to alleviate cyanosis
Murmur
Lab and X-Ray
ECHO
Stabilization

Respiratory
Supportive
Prostin??
Anomolies That Can Cause Respiratory Distress
Diaphragmatic Hernia

Stable with mild respiratory distress
Critical with severe respiratory distress
Pertinent Clinical Information

Always at risk for PPHN
Treatment and Stabilization

- Intubation
- OG tube
- Supportive Care
- Transport
T-E Fistula

- Respiratory distress associated with/without feedings
- Copious oral secretions
- Failure to pass OG tube
- Check the other end too!!
Choanal Atresia
Micrognathia

Pierre-Robin
Treacher-Collins
Nasal airways
Prone positioning
Intubation
Other Stuff

Hypo/Hyperthermia
Hypoglycemia
Hypoxic Ischemic Encephalopathy
Congenital hypoplastic lungs
Tracheal stenosis and L-T webs
Meconium Aspiration Syndrome
Summary

Be sure to try and find an underlying cause and try to treat it
Remember basic supportive care (TEMP)
X-Rays and ECHOs are your friends
Leave them alone, minimal stimulation, prone positioning
OXYGEN
Always be on the alert for PPHN

BEWARE!! Some infants will have multiple causes of respiratory distress

Some causes of respiratory distress will lead directly to other causes of respiratory distress