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Pulmonary air leak in a newborn

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Pulmonary air leak

a. Pulmonary air leak occurs more frequently in the newborn period than at any other time of life.

b. Air escapes the lungs into extra-alveolar spaces-resulting disorder depends on the location of air.

c. Most common conditions.

d. Pneumothorax, pneumomediastinum, and pneumopericardium.

e. Rarer conditions.

f. Subcutaneous emphysema and pneumoperitoneum.

Risk factors

a. Most cases of air leaks occur in newborns with underlying lung disease.

b. Preterm infants are at increased risk because they frequently have Respiratory Distress Syndrome (RDS).

Pneumothorax

I. Air in the space between the parietal and visceral pleura.

II. Usually show signs of respiratory distress such as tachypnea, grunting, pallor, and cyanosis.

III. Findings on Physical exam.

IV. Chest Asymmetry.

V. Decreased breath sounds on affected side.

VI. Shift of the PMI away from the affected side.

Diagnosis of a pneumothorax

a. Should be suspected in any newborn with the sudden onset of respiratory distress.

b. Transillumination of the chest may help make the diagnosis:

c. A pnuemothorax lights up the affected hemithorax.

d. AP Chest radiograph:

e. Air in the pleural space.

f. Flattening of the diaphragm on the affected side.

g. Shift of the mediastinum away from the pnuemothorax (Figure 1).

Management of a pneumothorax

I. Infants without a continuous air leak or respiratory distress can be closely monitored.

II. Oxygen supplementation.

III. Thoracentesis for emergent treatment of a symptomatic pneumothorax.

IV. Chest tube placement for definitive drainage.

Congenital lobar emphysema

A. Developmental anomaly of the lower respiratory tract that is characterized by hyperinflation of one or more of the pulmonary lobes.

B. Rare with a prevalence of 1 in 20,000 to 1 in 30,000.

C. Males affected more than females in a 3:1 ratio.

D. 50% of cases occur in the first 4 weeks after birth.

E. 75% of cases are found in infants < 6 months of age.

Figure 1 Neonate with Right Tension Pneumothorax.

Congenital lobar emphysema

Characterized by:

A. Difficulty in breathing or very rapid respiration in infancy.

B. Enlarged chest due to over inflation of at least one lobe of the lung.

C. Compressed normal lung tissue in the section of the lung closest to the diseased lobe.

D. Bluish color of the skin (cyanosis.)

E. Underdevelopment of the cartilage that supports the bronchial tube (bronchial hypoplasia).

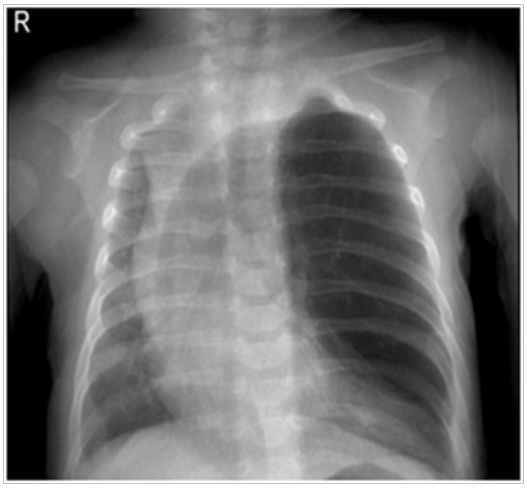

Figure 2 Neonate with Congenital Lobar Emphysema.

Diagnosis of congenital lobar emphysema

a. Chest X-Ray, CT, MRI can determine which part of the lung, which lobe is affected, and to what degree.

b. Lung function tests are also helpful studies to determine which part of the lung are affected and if surgery is necessary (Figure 2).

Management of congenital lobar emphysema

a. Depends on the extent of the damage to the lungs at the time of diagnosis.

b. If lung damage is limited, disease may not cause any adverse affects-closely monitor.

c. If condition affects the patient's ability to breath-Surgical removal (resection) of the affected lobe of the lung or the whole lung on the affected side.

Acknowledgments

None.

Conflicts of interest

Author declares that there is no conflict of interest.

References

1. http://rarediseases.org/rare-diseases/emphysema-congenital-lobar/
2. www.uptodate.com
3. http://radiopaedia.org/articles/pneumothorax