Infant Lung Disease: When What You Know Isn’t So

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Disclosure of Commercial Interest

- Neither I or a member of my immediate family have a financial relationship with a commercial organization that may have an interest in the content of this educational activity
3-week-old full-term infant with tachypnea, hypoxemia, and constipation
Infection work-up negative; ? Aspiration pneumonia
UGI series and swallow function study normal
Biopsy: Exogenous Lipoid Pneumonia

- Mother fed baby olive oil for constipation
Genetic Surfactant Disorders

Gene Defect
- ABCA3 (ATP-binding cassette subfamily A member 3)
- SP-C (surfactant protein C)
- SP-B (surfactant protein B)
- NKX2-1/TTF-1 (NK2 homeobox/thyroid transcription factor 1)
- SLC7A7 (solute carrier family 7 subfamily A isoform 7)
- NPC2 (Niemann-Pick type 2C)
- GM-CSF-R (granulocyte monocyte-colony stimulating factor-receptor)
- GATA2 (GATA binding protein 2)
- MARS (methionyl-tRNA synthetase)

Pathology
- Pulmonary alveolar proteinosis (PAP)
- Chronic pneumonitis of infancy (CPI)
- Desquamative interstitial pneumonia (DIP)
- Nonspecific interstitial pneumonia (NSIP)
Genetic Surfactant Disorders

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Identified in only 60-75% of patients with surfactant dysfunction
Typical radiographic findings of genetic surfactant disorder in infancy

- Diffuse air space opacity, resembling RDS of prematurity
8-day-old full-term neonate with hypoxemia and tachypnea
? Genetic Surfactant Disorder
Biopsy: Pulmonary Interstitial Glycogenosis (PIG)
More typical PIG in 2-month-old former premie

- Cyst-like lucencies from accompanying alveolar growth disorder
5-month-old former 32-week low birth weight premie with tachypnea
No mechanical ventilation and minimal initial oxygen supplementation, so not BPD
Wilson-Mikity Syndrome

- Form of alveolar growth abnormality distinct from BPD
5-week-old with RSV and cystic PIE complicated by pneumothorax
5-week-old with refractory spontaneous pneumothorax
? Ruptured cystic PIE, CPAM
Cystic Pleuropulmonary Blastoma (PPB)

- Spontaneous PTX common presentation of PPB, not CPAM
3-month-old with spontaneous PTX
Cystic lung lesion on CXR 1 week ago, ? PPB
Pneumatocele following Staphylococcal pneumonia 1 month ago

- Spontaneous PTX not specific for PPB; clinical history vital
18-year-old with CF and rapidly declining pulmonary function

Baseline

2 months later
ABPA, atypical mycobacterial infection

Baseline

2 months later
Biopsy: Intravascular foreign material and foreign body giant cell reaction

Baseline

2 months later
Exacerbations following Vicodin refills
Excipient Lung Disease

- Injection of crushed Vicodin tablets

- Microcrystalline cellulose
- Crospovidone
Excipient Lung Disease

- “Tree-in-bud” opacities not always due to small airways disease
Radiologists are doctors good at visualizing abnormalities

Radiologists are subject to cognitive biases

Cognizance of clinical history makes a better doctor