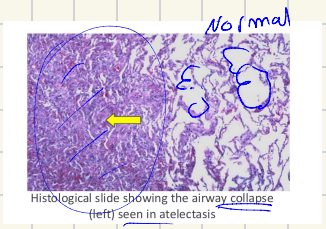
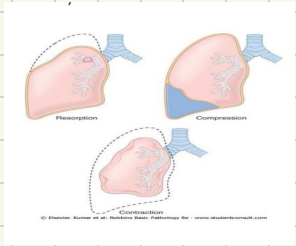
Atelactasis



Histological slide showing the airway collapse (left) seen in atelectasis

- Collapse of Air spaces → loss of lung volume
- ↑ Atelactasis → ↑ Hypoxia, ↑ Infxn
  - organs
  - MOF



Atelactasis

1 Resorption

- Complete obstruction → distal Atelectasis
- ✓ Mucus — Asthma, COPD, C. Bronchitis, Bronchiectasis
- ✓ foreign body
- ✓ Lung Tumors — Central [ex SCC]
- ✓ post operative
  - ① Inhaled Gas → irritation
  - ② Insuff Respiration → ↑ mucus
  - ③ No cough → ↑ sec

2 Compression

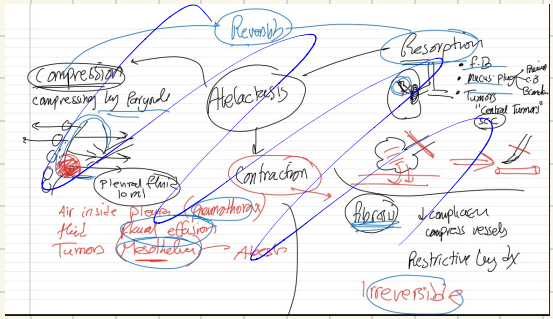
Compression of lung pleura
- pleural effusion "CHF"
- Pneumothorax
- Mesothelioma

3 Contraction

- Fibrosis
- Restrictive Lung disease
- compress B.Vs

((Irreversible))

Reversible



ARDS

* Mortality Rate 38.5 %

- Wide spread Lung Inflammation → diffuse alveolar damage in < 1 w → Resp. failure
- Not a primary disease
- causes of ARDS

Direct	Indirect
- Pneumonia	- Sepsis "MCC"
- Aspiration	- Acute Pancreatitis
- smoke Inhalation	- Poly Trauma
- fat embolus	- Major burns

Diagnosis
* Berlin - Criteria *

- Acute onset < 1 w
- P/F ratio < 300 mmHg
- CxR (Bilateral Infiltration)
- Alveolar Edema PCWP < 18

" Inflamm → ↑ Alveolar permeability
↑ Vascular Permeability "

P/F
- mild → 200 - 300
- Moderate → 100 - 200
- Severe → < 100

Predictors of Poor Prognosis
- old Age
- Bacteremia (sepsis)

Development of Multi organ failure

Hypoxia
P/F ↓↓

* Pathogenesis of ARDS

Diffuse Alveolar damage
↓
Cytokine release
↓
⊕ Macrophage
- IL-6
- IL-1
- TNF α

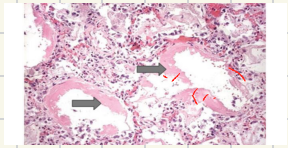
Neutrophil recruitment
- ROS
- Proteases

↑↑ Vascular + Alveolar permeability dt Inflammation

" Histology of ARDS "

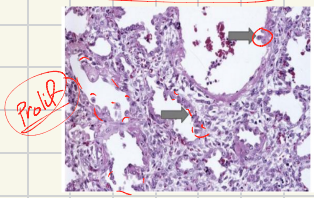
Acute phase

The Most characteristic finding
* (Hyaline Membrane)
Necrotic cells + Proteins + RBCs + WBC + fibrin



organizing phase

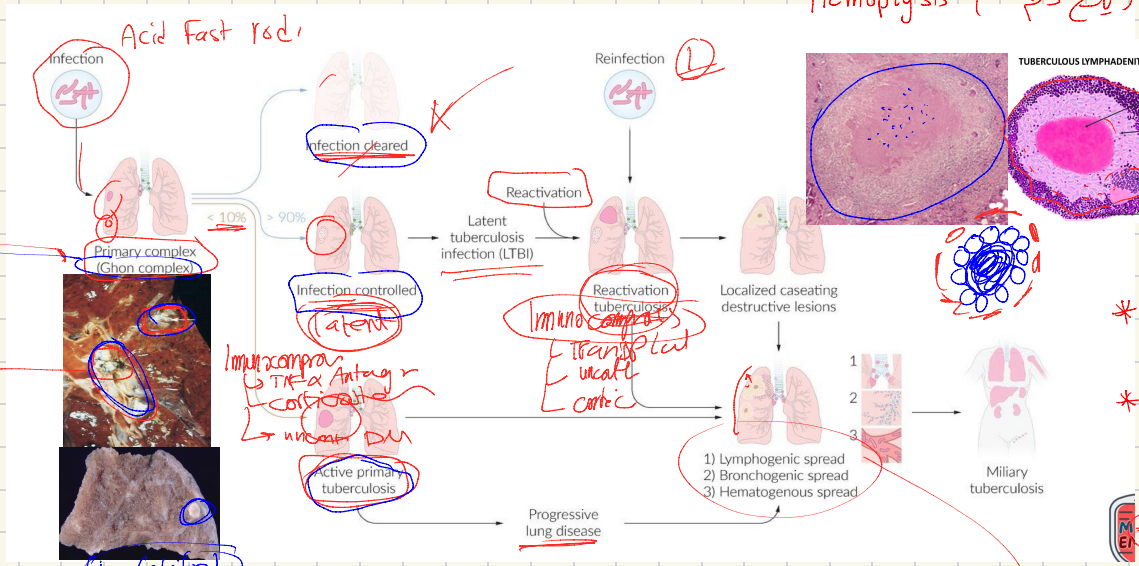
* Proliferation of Type II pneumocytes (stem cells, surfactant)
* Intra alveolar fibrosis → fibrin rich exudates



(B) The healing stage is marked by resorption of hyaline membranes and thickening of alveolar septa by inflammatory cells, fibroblasts, and collagen. Numerous reactive type II pneumocytes also are seen at this stage (arrows), associated with regeneration and repair.

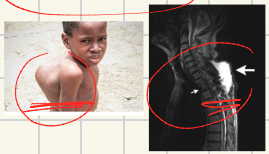
TB (Tuberculosis)

fever
Night sweats
WT loss (Thin)
Hemoptysis (>2 wks)



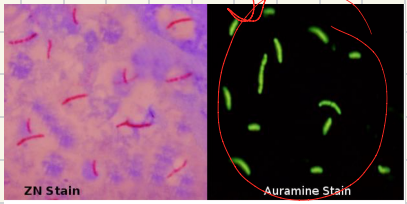
Gho focus
hilar LN
fibro calcified
↳ try

* Pleural Involvement
  ↳ Effusion
  ↳ Pneumothorax
* Systemic Miliary TB
  ↳ organs
* Isolated organ TB
* lymphadenitis (unilateral)
  "cervical LAN"
* TB Salpingitis
  ↳ Infertility
* Pott disease



Diagnosis

- CxR →
- PPD (Tuberculin skin test) 48-72 → (+) (−)
- Culture ZN
  Flourescent Auramine Rhodamine
- PCR



(Lung Tumors)

* leading cause of Ca death
* Age 50-60
* 98% of lung Tumors are (Malignant)

(Lung Ca) ← 50-60
>50% of pt distant mets (stage 4)
localized dx 5-year survival rate 45%
for all stages 5-year survival rate 16%

Benign (Hamartoma)

- CXR: coin-lesion (1-4 cm) discrete lesion
- Mature: Cartilage admixed w fat, fibrous tissue
  Smooth Ms. → Blood Vessels

Small Cell Lung Ca	Central	Smoking • undiff cells → very Agg * Salt-Pepper appearance chromatin * Neurosecretory granules * Fragile Cells → fragmentation & crush Artifact * Nuclear Molding * Azzopardi effect → Basophilic staining vascular walls Paraneoplastic ↑ ng &
Adeno Ca	Peripheral	• female (Not Smoker) • Hereditary ↳ EGFR, KRAS • Most Common Primary Tumor • Most common in Non smoker
SCC	Central	• Smoking • Central Necrosis // Cavitation • * distal Atelectasis & Infxns range from ↳ well differentiated SCC w keratin pearls & intercellular bridges to poorly diff. Neoplasm
Large Cell Carcinoma	Peripheral	Smoking undifferentiated malignant epith. Cells - Large Nuclei - Prominant Nucleoi - Abundant Cytoplasm
Carcinoid	Periph/central	excellent Prognosis carcinoid Syndrome (5HT)