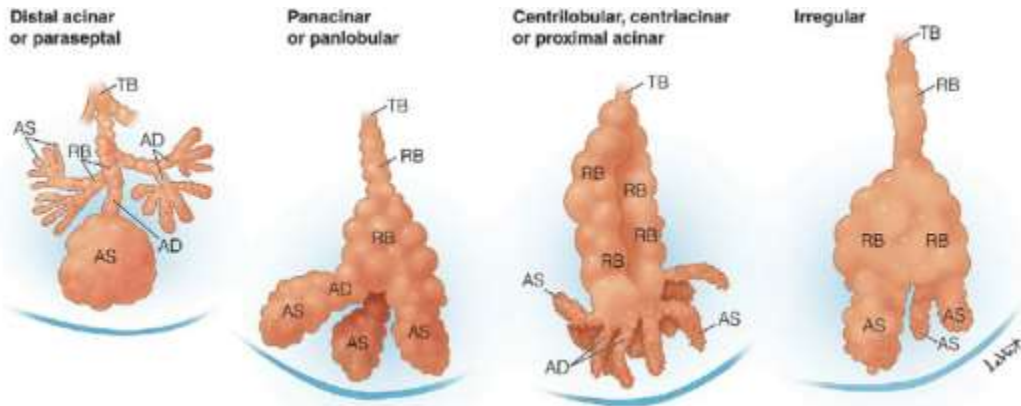


## XVI. Diseases of the Respiratory System

### 195



#### ***N.B. 2:***

***Chronic generalized obstructive emphysema:***  
***(Chronic inflation emphysema = chronic alveolar emphysema).***

***It occurs in:***

1. Constitutional weakness of elastic tissue of lung (hereditary).
2. Increase intra-alveolar pressure (trapped air due to obstruction).
3. Excessive inspiratory efforts (asthma and chronic bronchitis).
4. Violent expiratory efforts
  - a. Chronic bronchitis,
  - b. Asthma and
  - c. Profession as playing with instruments
5. Premature ossification of costal cartilages; chest is fixed in an inspiratory position.
6. Other causes (pulmonary tuberculosis etc....).

#### ***N.E.A.:***

***Lungs:*** Both are voluminous and bulky.

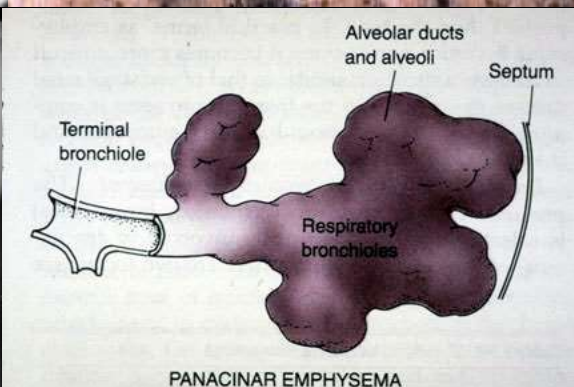
- *Bullae and large pale blebs at*
  - *Apices,*
  - *Bases and*
  - *Inferior borders and*
  - *Anterior margins.*
- *They are soft (feathery feel) and*
- *They pit on pressure (due to loss of elastic tissue).*

***On section, the lungs are:***

- *Pale (bloodless appearance).*
- *Dry (loss of capillaries and lung tissue).*
- *Show large cystic spaces filled with air.*

**Effects:**

1. **Barrel-shaped chest** (ribs raised and sternum pushed forward).
2. **Calcified costal cartilages** (on opening thorax at autopsy, the lungs do not collapse and their surfaces are marked with grooves due to pressure of ribs).
3. **Kyphosis** > signs in lung.
4. Area of superficial **cardiac dullness** is much diminished (edges of lungs meet at middle line). As well as.
  - Dyspnea,
  - Cyanosis,
  - Hyper-resonance of lungs,
  - Diminished respiratory movements,
  - Prolonged and difficult expiration (less elastic tissue to expel trapped air), and
  - Diminished tactile vocal fremitus and resonance (less lung tissue to convey vibrations).
5. Obliteration of capillaries in alveolar walls → increases intra-pulmonary resistance to circulation → hypertrophy of right ventricle, then its dilatation → **cor-pulmonale condition**.
6. **Arteriosclerosis of the branches of pulmonary artery.**
7. Increase in number and size of R.B.Cs. (**Erythrocytosis**).
8. **Chronic congestive heart failure.**
9. **Spontaneous pneumothorax (due to rupture of bullae).**



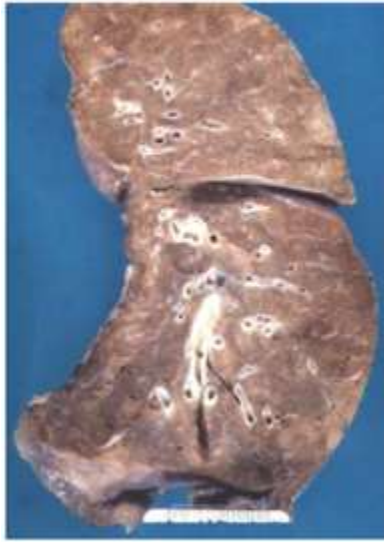


<b>Emphysema (atrophic = senile)</b>			
<b>Lung</b>	Is small (diminished in size) Dry Silky Bloodless (pale).		

- N.B.:**
- Senile emphysema is not true emphysema.
  - It is due to degenerative changes produced by old age.
  - The lung is not enlarged and does not show bullae.
  - Another type of non-true emphysema is the surgical or acute interstitial emphysema.



Normal lung



Emphysema

