

Difference Between Pneumonia and Walking Pneumonia

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Key Difference – Pneumonia vs Walking Pneumonia

Pneumonia is a disease caused by the invasion of the lung parenchyma by a disease- causing agent (mostly bacteria), evoking exudative solidification of the (consolidation) of the pulmonary tissue. Walking pneumonia is actually a mild form of pneumonia where hospitalization is not required, and the patient can often carry on his/her daily routine with no interruption. Thus, the key difference between pneumonia and walking pneumonia is their seriousness; **walking pneumonia is a mild form of pneumonia and has less severe signs and symptoms.**

What is Pneumonia?

Pneumonia is a disease caused by the invasion of the lung parenchyma by a disease- causing agent (mostly bacteria), evoking exudative solidification of the (consolidation) of the pulmonary tissue.

Classification

Classification of pneumonia is based on several criteria.

1. According to the causative agent

Bacterial, viral, fungal

2. According to the gross anatomic distribution of the disease

Lobar Pneumonia, Bronchopneumonia

3. According to the place where the pneumonia is acquired

Community acquired, hospital acquired

4. According to the nature of the host reaction

Suppurative, fibrinous

Pathogenesis

The normal lung is devoid of any disease- causing organisms or substances. The respiratory tract has several defense mechanisms aimed at preventing the entry of these disease- causing agents.

- Nasal Clearance – particles deposited in the front of the airway on the non-ciliated [epithelium](#) are normally removed by sneezing or coughing. The particles deposited posteriorly are swept over and will be swallowed.
- Tracheobronchial Clearance – this is accompanied by mucociliary action
- Alveolar Clearance – [phagocytosis](#) by alveolar macrophages

Pneumonia can result whenever these defenses are impaired or the host resistance is decreased. Factors such as chronic diseases, immunosuppression and use of immunosuppressive drugs, leukopenia, and viral infections affect the host resistance. making the host vulnerable to contract this kind of disorders.

The clearance mechanisms can be damaged in several ways,

- Suppression of the cough reflex and the sneezing reflex

secondary to coma, [anesthesia](#) or neuromuscular diseases.

- Injury to the mucociliary apparatus

Chronic smoking is the major reason for the destruction of the mucociliary apparatus.

- Interference with the phagocytic action
- Pulmonary congestion and [edema](#)
- Accumulation of pulmonary secretions in conditions such as [cystic fibrosis](#) and bronchial obstruction

Bronchopneumonia

- *Staphylococci, Streptococci, Pneumococci, Haemophilus, and Pseudomonas auregenosa* are the main causative agents.

Morphology

- Foci of bronchopneumonia are consolidated areas of acute suppurative [inflammation](#). The consolidation may be patchy through one lobe but is more often multilobar and frequently bilateral.

Lobar Pneumonia

- Main causative agents are *pneumococci, klebsiella, staphylococci, streptococci*

Morphology

Four stages of inflammatory response have classically been described.

Congestion

The lung is heavy, boggy, and red. This stage is characterized by vascular engorgement, intra-alveolar fluid with few neutrophils, and often the presence of numerous bacteria.

Red Hepatization

Congestion is followed by red hepatization which is characterized by massive confluent exudation with red cells, neutrophils, and fibrin filling the alveolar spaces.

Gray Hepatization

Lungs assume a gray color because of the progressive disintegration of the red blood cells that have accumulated in the alveolar spaces; this grayish appearance is enhanced by the presence of the fibrino suppurative exudate.

Resolution

During the final stage of the pathogenesis, the consolidated exudate that has accumulated within the alveolar spaces undergo progressive enzymatic digestion to produce a granular semi -fluid debris that is reabsorbed and ingested by macrophages or coughed up.

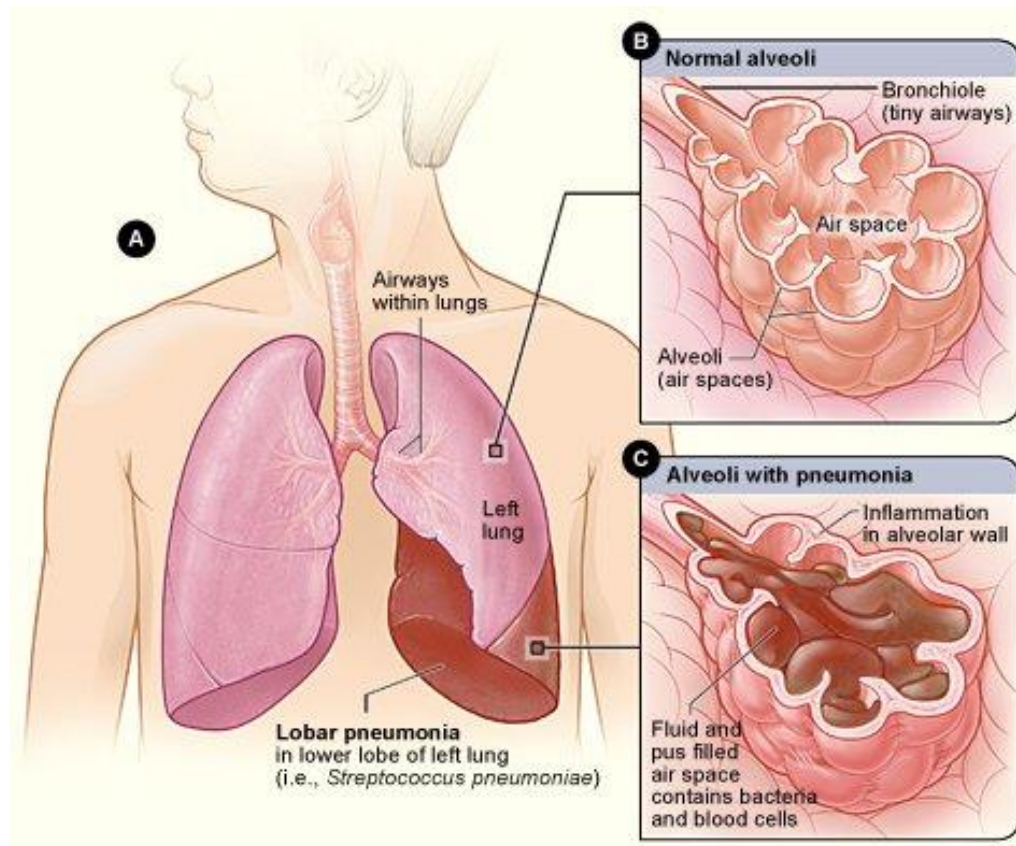


Figure 01: Lobar Pneumonia

Complications

- Abscess – because of the tissue destruction and necrosis
- Empyema- as a result of the infection spreading into the pleural cavity
- Organization
- Dissemination into the blood stream.

Clinical Features

- Acute onset of fever
- Dyspnea
- Productive cough
- Chest pain

- Pleural friction rub
- Effusion

What is Walking Pneumonia?

Walking pneumonia, also known as atypical pneumonia, is characterized by patchy inflammatory changes in the lungs largely confined to the alveolar septa and pulmonary interstitium.

In this condition, the alveolar septa are widened and edematous show a mononuclear inflammatory infiltrate. It is called atypical pneumonia because of the lack of alveolar exudate. Superimposed bacterial infection modifies the histologic picture by causing ulcerative bronchitis and pneumonia.

Causative Agents

- *Mycoplasma pneumoniae*
- Viruses including [influenza A, B](#), respiratory syncytial virus adenovirus and rhinovirus
- [Chlamydia](#)
- Coxiella

Clinical Features

The clinical features are not severe in comparison to those of typical pneumonia.

- Fever
- Headache
- Muscle pain in the legs
- *Mycoplasma pneumoniae* causes elevated cold agglutinin titers in the serum.



Figure 02: Walking Pneumonia is less severe than Pneumonia

What are the similarities between Pneumonia and Walking Pneumonia?

- In both conditions, there are inflammatory changes in the lungs along with the accumulation of an inflammatory exudate in the alveolar sacs.

What is the difference between Pneumonia and Walking Pneumonia?

Pneumonia vs Walking Pneumonia

Pneumonia is a disease caused by the invasion of the lung parenchyma by a disease-causing agent (mostly bacteria), evoking exudative solidification of the (consolidation) of the pulmonary tissue.

Walking pneumonia, also known as atypical pneumonia, is characterized by patchy inflammatory changes in the lungs largely confined to the alveolar septa and pulmonary interstitium.

Diseases	
This includes a wide range of diseases affecting the lung parenchyma.	Walking pneumonia is a mild form of pneumonia
Cause	
This is mainly caused by bacteria.	<i>Mycoplasma pneumoniae</i> is the commonest causative agent.
Exudate	
A large amount of exudate is typically produced.	The amount of exudate produced in walking pneumonia is less than that produced in pneumonia.

Summary – Pneumonia and Walking Pneumonia

Pneumonia is a lung inflammation caused by an infection where the air sacs fill with pus and may become solid. Walking pneumonia is a mild form of pneumonia. Thus, the difference between pneumonia and walking pneumonia is the severity of their signs and symptoms and the subsequent complications.

References:

1. Kumar, Vinay, Stanley Leonard Robbins, Ramzi S. Cotran, Abul K. Abbas, and Nelson Fausto. Robbins and Cotran pathologic basis of disease. 9th ed. Philadelphia, Pa: Elsevier Saunders, 2010. Print.

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