

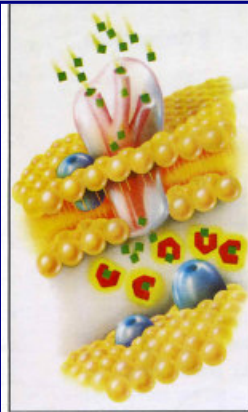


Barbara Rinehart

NEWSLETTER INFECTIOUS DISEASE

My responsibilities were:

-  Researched topic
-  Wrote copy
-  Worked with graphic designer to develop art, figures, and tables



Antibiotic Continuing Education Newsletter Disease Update

Pneumonia

The Nature of Pneumonia

Welcome! It is our pleasure to present the first copy of the Antibiotic Continuing Education Newsletter, a publication designed to reinforce and broaden your knowledge of relevant topics for the acute care environment. This newsletter will be sent to you approximately every other month. This information is provided for your background use only. It is not to be used in detailing.

Pneumonia, an inflammation of the lungs, develops as a result of either infectious or non-infectious circumstances. Bacteria most commonly cause infectious pneumonia; however, viruses, protozoa and fungi are also involved. Noninfectious pneumonia is a reaction of lung tissue to inhaled or aspirated substances. Pneumonia can be either community-acquired or nosocomial, acquired in a healthcare setting.

Alcohol's Role in Respiratory Infection

The human respiratory tract has several defense mechanisms to effectively remove debris and microbes (see Table 1). Pneumonia may occur when these defense mechanisms fail. Factors that contribute to this failure may involve the number of infecting microbes, the virulence of these microbes, the efficiency of the person's defense mechanisms including any prior immunity against the organism, and the health status of the individual.

Health status is compromised by the abuse of alcohol, which increases a person's susceptibility to respiratory infection. Chronic alcohol intoxication causes malnutrition,

Table 1—Defense Mechanisms of the Respiratory System

Upper Airway

- anatomic barriers (larynx, air stream turbulence)
- angulation of airways
- muco-ciliary clearance
- cough
- immune system antibodies (S-IgA)

Alveoli

- surfactants
- **opsonins**, immunoglobulins, **fibronectin**
- **complement**
- white blood cells/cells of the immune system (macrophages, polymorphonuclear granulocytes)
- plasma components
- vaso-active mediators

Reynolds HY. Pulmonary host defenses. *Alcohol Clin Exp Res* 1995;19:6-10.

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Disease Update

Case Report of Pneumonia

gastrointestinal colonization, nasogastric suctioning, respiratory therapy, surgery, proximity to other patients), antimicrobial usage is probably the one common factor in all cases.

Suspected Fungal Infection in Endemic Areas

A 29-year-old, previously healthy, black woman visits her family physician. She complains of fever, chills, cough, **hemoptysis**, and pain in the right side of her chest. X-rays indicate pneumonia. She is treated with antibiotics to no avail. She is subsequently hospitalized for intravenous antibiotic therapy, which appears effective. She is sent home, but the cough persists.

X-rays taken a month later show that the disease has progressed. *Aspergillus* fungus is isolated. She is treated with antifungal medication (fluconazole) and requested to return

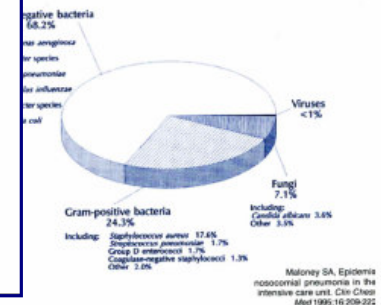


Figure 1 - Distribution of pathogens causing nosocomial pneumonia in the intensive care unit.