Pneumonia: How Did We Evolve? (Colombian Vision)

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Introduction

From the very beginning of the medical profession, some illnesses have created landmarks in the development of medicine. One such illness is pneumonia, which has profoundly influenced medical semiology. Later, diagnostic images evolved, then microbiology and pharmacology. Currently, medicine based on evidence is evolving, with the imposition of score markings for diagnosis, treatment, classification, and hospitalization. Nevertheless, pneumonia continues to be an infection with high incidence and in some cases with a bad evolution and great social and economic costs.1-3

Pneumonia is the principal cause of mortality from infectious illnesses in the United States. In 1994, 5.6 million cases were reported, $8.4 billion was spent on this disease, and the average hospitalization was 5.8 days for young people and 7.8 days for the elderly. The disease had an average cost of $7,166 for elderly people and $6,042 for the young.4,5

The incidence of pneumonia in the United States was 266.8 /100,000 patients, with 92 cases in every 100,000 patients between the ages of 18 and 44 years, and 1,014 cases in every 100,000 patients occurring in those older than 65 years. Average mortality independent of subgroups was 8.8%; in young people, 4.5%; and in the elderly, 12.5%.6

Etiology

The study done in the city of Medellín by Robledo et al. (Revista Colombiana de Neumología, in press) determined that 52% of the cases showed no etiologic agent, unlike other studies.7-9 The most frequent microorganism was Streptococcus pneumoniae, in 23 (30.3%) of 76 patients, followed by Mycoplasma pneumoniae, in seven patients (9.2%), and Haemophilus influenzae, in three patients (3.9%). Polymicrobial etiology was found in 11 cases. There were two cases of infection by Mycobacterium tuberculosis, two of infection...
by *Staphylococcus aureus*, two Gram-negatives, one anaerobic, and one of infection by *Murielle catarrhalis*.

The distribution of etiologic agents is very similar to that in other published articles, although it is important to point out that tuberculosis was a prevalent agent in this series of patients.

**Classification**

According to the guidelines of the American Thoracic Society (ATS) and Infectious Disease Society of America (IDSA), community-acquired pneumonia has been categorized in order to obtain a safe empiric treatment, to improve results, and to reduce costs. Pneumonia must first be classified as typical or atypical with reference to its clinical presentation and its radiologic pattern. Typical pneumonia presents with a classic clinical pattern of fever, chills, cough, purulent expectoration, and difficult breathing with a radiologic pattern of alveolar consolidation. Atypical pneumonia has a more larvated clinical pattern, with non-productive cough, fever, and dyspnea, and interstitial infiltrate that appears on thoracic RX. Different microorganisms are found. *S. pneumoniae* predominates in typical pneumonia. In atypical pneumonia such microorganisms as *M. pneumoniae*, *Chlamydia pneumoniae*, and *Legionella pneumophila* predominate.

Similarly, some have suggested classifying the infection according to different groups, where age, co-morbid disease and modifiable factors are taken into account. Such factors include penicillin resistance, pneumococcus resistance, age greater than 65 years, treatment with β-lactamic antibiotics during the previous 3 months, alcoholism, immune-suppressing illness or treatment with steroids, medical comorbidity, exposure to children in orphanages, enteric Gram negative bacilli, residence in nursing homes, cardiopulmonary sickness, recent treatment with antibiotics, bad nutrition, and antecedents of smoking.

They are classified as follows.

Group I consists of ambulatory patients without cardiovascular disease or modifiable factors. The most frequent microorganisms in this group are: *S. pneumoniae, M. pneumoniae, C. pneumoniae* (alone or in mixed infection), *Haemophilus influenzae*, respiratory viruses, and miscellaneous microorganisms such as *Legionella spp.*, *M. tuberculosis*, and endemic fungi.

Group II consists of ambulatory patients with cardiopulmonary disease and with modifiable factors. The most frequent microorganisms in this group are: *S. pneumoniae* (including the one resistant to penicillin), *M. pneumoniae, C. pneumoniae*, mixed infections (bacteria plus atypical pathogens or viruses), *H. influenzae*, enteric Gram-negative bacilli, respiratory viruses, miscellaneous microorganisms (*Moraxella catarrhalis, Legionella spp.*), aspiration (anaerobic), *M. tuberculosis*, and endemic fungus.

Group III consists of hospitalized patients who do not enter an intensive care unite (ICU). They are subdivided into those with cardiopulmonary dis-