EDITORIAL

The Influence of Specialty Care on the Management of Hospitalized Pneumonia

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The exponential growth of scientific knowledge over the last decades has made it difficult for doctors to keep up to date even within their own specialty. Moreover, certain fields have reached degrees of development that require specific training if optimum clinical care is to be provided. Concentration of efforts and valuable interrelation between colleagues with similar interests are the more obvious advantages of this tendency towards subspecialization. Disadvantages include increased risk of diagnostic error due to early training in very specific areas, leading to the inevitable weakening of the figure of general practitioner or internist in an era when, paradoxically, hospital populations are increasingly complex, suffer mainly from multisystemic disorders, and need medium- to long-term care. Under these circumstances the following question can be posed: do medical specialists provide patients with better clinical care?

The cost of a health care procedure and the outcome of the patients who undergo it are the main aspects to be considered when answering the question. An important factor of the many which play a part in health care costs is the profile of the doctor involved; for example, endocrinologists and cardiologists use more medical resources than internists in the care of the same kind of patient, and the latter use more resources than general practitioners.[1] Establishing whether the supposed increment in cost produced by specialist care involves better clinical outcome is critical. Reis et al[2] found that hospital treatment of congestive heart failure under a cardiologist involved more diagnostic tests and a longer hospital stay but also resulted in fewer readmissions 6 months after discharge. Other authors have found not only fewer readmissions but also lower mortality at 1 year among heart failure patients attended by cardiologists compared with other specialists.[3]

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Manuscript received December 14, 2004. Accepted for publication January 4, 2005.

Asthma has probably been more closely examined from this perspective than any other respiratory condition. Several clinical studies have shown that specialist care (by pneumologists and allergists) involved more intensive care but at the same time, and probably as a consequence, greater relief from symptoms, greater exercise tolerance, fewer visits to the emergency department or hospital admissions, and less loss of patients' school or work hours compared with care given by general practitioners.[4-8] However, these results that appear to favor specialist attention have not been found for other common respiratory diseases. Patients hospitalized for acute exacerbations of chronic obstructive pulmonary disease do not have greater resource use or better prognosis when attended by pneumologists than by internists.[9,10] The influence of the profile of the doctor on resource utilization in the treatment of relevant diseases—from the clinical as well as the economic and social point of view—and on the prognosis of the patients affected is thus of interest. One of these diseases, without a doubt, is community-acquired pneumonia (CAP).

CAP causes nearly 4000 deaths a year. Among the main causes of death in Spain, only Alzheimer disease and pneumonia showed a significant increase in the adjusted mortality rate during the period 1995 to 1998.[11] The estimated annual incidence of CAP is 60 000 patients over 14 years of age, of whom 60% are cared for in hospital.[12] A large part of the direct costs of CAP come from these admissions, which range from €1220 to €2795 per procedure,[12-15] significantly higher than costs of CAP cases treated at outpatients, which range from only €150 to €200.[12,14] If we exclude 20% of admissions as inappropriate from this superficial economic analysis,[12,14] the cost of hospitalized CAP in Spain still ranges from €35 million to €80 million annually, representing approximately 2% of the total cost of hospitalized patients.[15] However, the decision to hospitalize, the length of hospital stay, and the use of antimicrobials vary considerably from one hospital to another. The main variables that affect these differences are related to the severity of the patient's condition and the presence of associated risk factors, but the specialty

of the doctor treating the patient can also affect the variability of the treatment received and the outcome of the process, as has been seen with other diseases.[16]

In this issue of ARCHIVOS DE BRONCONEUMOLOGÍA, Capelastegui et al[17] report interesting findings on the differences observed in the care and treatment of hospitalized CAP patients according to the department they are treated in, and analyze the repercussions that these differences can have on patient outcome. The retrospective nature of the study and the lack of homogeneity of the patients admitted to the different departments (pneumology, internal medicine, infectious diseases, and a mixed group of specialties) prevent definite conclusions from being reached, as the authors indicate. Nevertheless, some results stand out. One of the more remarkable is that after adjusting for severity, the more critical patients and those with highest risk who were treated by pneumologists had a lower intrahospital mortality rate and lower mortality rate at 30 days than patients treated by internists. A higher percentage of inappropriate prescriptions given by the internists could explain the outcome disparity. However, insufficient microbiological information in this study makes it difficult to establish appropriateness of antibiotic treatment. According to the authors' criteria, the antibiotic or antibiotics used were considered appropriate in over 80% of cases in all departments and over 90% in the internal medicine department. This contrasts with the authors' conclusions: that the different mortality rates can be attributed to differences in antimicrobial use and that use needs to be improved. Pneumologists do seem to use macrolides more frequently than internists but the conclusion that the different range of atypical microorganisms covered might play a part in the results is pure speculation at this stage. Several studies have shown that the inclusion of a macrolide in the initial treatment of CAP is associated with a decrease in mortality.[18-23] These findings could be due to a possible synergic effect, the immunomodulator effect of these antimicrobials, or the range of atypical pathogens covered. Other authors, however, have not been able to confirm these results[24,25] and the association of a beta-lactam and a macrolide, at least in theory, could be inadvisable because of the possible antagonistic effect the bacteriostatic agent could have on the bactericide.[26] Finally, a recent study described how combination antibiotic therapy for severe pneumococcal bacteremia lowered mortality at 14 days of diagnosis but this finding was independent of the kind of antibiotic used or its in vitro activity.[27]

Earlier studies have analyzed the influence which duration of intravenous treatment has on hospital stay and procedure costs.[13] Capelastegui et al[17] found that duration of intravenous treatment was significantly shorter under pneumologists than under internists, confirming observations of other authors.[28] This finding could at least partly explain the shorter hospital stay in pneumology departments compared with internal medicine and the mixed group.

At this point the question can be raised whether differences observed between specialists' management of CAP could be reduced if structured protocols were followed. A recent Spanish multicenter study shed some light on this aspect: adherence to CAP treatment guidelines was significantly lower among nonpneumologists and this fact constituted a risk factor independent of poor prognosis.[29] On the other hand, the percentage of appropriate treatments in the study by Capelastegui et al[17] and the absence of significant differences in other important variables such as time of first dose administration of antimicrobial treatment brings into question the possible influence that use of guidelines would have had on the results obtained by these authors.

Finally, it is interesting to note the very slight disparities between infectious disease specialists and pneumologists in the management of pneumonias. To my mind this circumstance underlines a point made by other authors, that doctors' experience in the management of these diseases and, in particular, the volume of patients of this kind that they treat every year are more important factors than specific academic qualifications.[30] As specialists in pneumology we must avoid the absurdity of continuously having to know more about less because we run the risk of eventually knowing everything about nothing. On the other hand, we must also reject the still remaining attitude of some generalist colleagues who sometimes remind me of Roger Ascham, writer and scholar from the 16th century, who used to answer, when asked about certain subjects, that he knew nothing about them, never even having lectured on the topics.

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