Physician Specialty as a Source of Heterogeneity in the Care of Patients With COPD

To the Editor:

Patients with COPD frequently are cared for by nonrespiratory specialists, and specialty might affect the approach to COPD. The Linking Innovation and Knowledge in COPD (LINK) study comparatively assessed the clinical practice of three categories of Italian specialist physicians: 80 pneumologists, 81 geriatricians, and 82 internists who completed an online questionnaire (e-Appendix 1) that explored these specialists’ perceptions of COPD on the basis of individual experience and professional course. Data were analyzed by descriptive statistics, and discriminant analysis was used to compare the approach to COPD of the three specialist groups. Pneumologists were more aware of specific pathophysiologic aspects of COPD, such as the clinical impact of dynamic hyperinflation (pneumologists, 86%; geriatricians, 54%; internists, 61%) and the phenotypic variants of COPD. Geriatricians more frequently performed multidimensional assessment of patients with COPD (geriatricians, 76.5%; pneumologists, 24%; internists, 28%). COPD-specific health status indexes were routinely used by 54% of pneumologists, 57% of geriatricians, and 45% of internists. Seventy-five percent of geriatricians routinely assessed activities of daily living and instrumental activities of daily living compared with 35% of pneumologists and 39% of internists.

Results from the discriminant analysis are summarized in Table 1. The first discriminant function explained 92% of the variance and had a small Wilks lambda (ie, only a small proportion of the variance among groups is not explained by differences among groups). A high eigenvalue further testifies to the strong discriminant power of function 1. The cross-tabulation of actual group membership as defined by the selection criteria and functional group membership resulting from the performance on the questionnaire are reported in Table 2. The majority of geriatricians (84%) and pneumologists (71%) had concordant actual and functional group membership (ie, in their daily practice, they conformed to a highly prevalent group-specific pattern). The same was not true for internists, where only 39% behaved as internists, 40% as pneumologists, and 21% as geriatricians.

A specialty-related approach to COPD characterized the majority of pneumologists and geriatricians and was related to distinctive visions of physiopathology, health status, comorbidity, and modality of assessment of patients with COPD. The attitude of internists toward COPD was highly heterogeneous. Our findings identify selected weaknesses and strengths of the various management styles and might suggest strategies to improve specialty practice as it pertains to COPD management.

![Table 1—Comparison of Rapid Pleurodesis Experiences](image)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Our Experience</th>
<th>Reddy et al¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients, No.</td>
<td>8</td>
<td>30</td>
</tr>
<tr>
<td>Most common primary site (No.)</td>
<td>Lung (5)</td>
<td>Lung (9)</td>
</tr>
<tr>
<td>Length of hospitalization, median (mean), d</td>
<td>1 (1.5)</td>
<td>1.79 (3.19)</td>
</tr>
<tr>
<td>Length of time with TPC, median (mean), d</td>
<td>16 (21)</td>
<td>7.54 (16.65)</td>
</tr>
<tr>
<td>Need for thoracostomy tube</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Violation of visceral pleura</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Technique used to determine likelihood of pleurodesis</td>
<td>Postthoracentesis radiograph</td>
<td>Pleural manometry</td>
</tr>
<tr>
<td>Immediate postoperative drainage technique</td>
<td>TPC to continuous suction at −20 cm H₂O</td>
<td>24F Chest tube to continuous suction at −20 cm H₂O</td>
</tr>
<tr>
<td>Anesthesia</td>
<td>General anesthesia</td>
<td>Moderate sedation</td>
</tr>
<tr>
<td>Procedure-related complications</td>
<td>0</td>
<td>Fever (2), empyema (1)</td>
</tr>
<tr>
<td>Procedure-related deaths</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Patients who died with TPC in place, No. (%)</td>
<td>1 (12.5)</td>
<td>4 (13)</td>
</tr>
<tr>
<td>Clogging of TPC</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

TPC = tunneled pleural catheter.

¹Time to office visit determined removal of TPC.

Table 1—Canonical Discriminant Function

<table>
<thead>
<tr>
<th>Function</th>
<th>Eigenvalue</th>
<th>% Variance</th>
<th>Wilks λ</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.885</td>
<td>92.4</td>
<td>0.494</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>2</td>
<td>0.073</td>
<td>7.6</td>
<td>0.932</td>
<td>.64</td>
</tr>
</tbody>
</table>

Rows indicate actual group membership; columns indicate functional group membership.

REFERENCE


Procalcitonin vs Clinical and Chest Film Findings to Diagnose Community-Acquired Pneumonia in Patients With Acute Asthma or Acute Exacerbations of Chronic Bronchitis

To the Editor:

I read with interest the article by Dr Bafadhel et al in a recent issue of CHEST (June 2011) on using procalcitonin levels to diagnose community-acquired pneumonia (CAP) in adults with acute exacerbations of chronic bronchitis (AECB) or asthma. The diagnostic significance of procalcitonin depends on the clinical context. However, the use of procalcitonin levels in diagnosing CAP in adults with acute asthma or AECB seems to be unnecessary.

Patients with asthma exacerbations who are ill enough to be seen in the ED have well-known clinical features. Patients presenting with asthma are afebrile with a chest radiograph showing hyperinflation but no pulmonary infiltrates. Patients with AECB presenting to the ED are afebrile and have changes in their sputum (ie, volume, color, and tenacity). Unlike those with asthma, patients with AECB are prone to bacterial CAP. However, the chest radiograph readily differentiates AECB from CAP by the presence or absence of focal/segmental infiltrates. In AECB, chest radiographic findings are limited to peribronchial cuffing, but the radiographs are usually unremarkable. The diagnosis of bacterial CAP is based on the presence of fever, pulmonary symptoms, and a focal/segmental infiltrate on chest radiograph. Viral CAPs on chest radiograph are clear or may show an accentuation of lung markings or bilateral patchy interstitial infiltrates. Therefore, diagnosis of bacterial CAP in adults with acute asthma or AECB rests primarily on the presence of fever and chest radiograph infiltrates compatible with bacterial CAP.

Patients with AECB are predisposed to develop Streptococcus pneumoniae, Haemophilus influenzae, and, particularly, Moraxella catarrhalis CAP. In contrast to AECB, bacterial CAP is a rare complication of an acute asthma exacerbation. Respiratory viruses are frequent triggers of acute asthma whereas Mycoplasma pneumoniae and Chlamydia pneumoniae may trigger exacerbate, or cause asthma. Procalcitonin levels are un elevated or mildly or moderately elevated with viral and atypical CAPs. With bacterial CAPs, procalcitonin levels are more highly elevated with bacteremic and lobar CAP.

In an era dominated by technologically driven diagnoses, we should not forget that the traditional clinical approach to diagnosing CAP still rests on history, physical examination, and chest radiographic findings. This time-tested approach has not lost its clinical usefulness or accuracy. It has been said, and I agree, “All biomarkers have their weaknesses and strengths. None should be used alone; and none is anything more than an aid in the exercise of clinical judgement.” Procalcitonin levels add nothing except additional cost and possibly diagnostic confusion to the relatively straightforward clinical diagnosis of CAP and acute asthma and AECB.

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Additional information: The e-Appendix can be found in the Online Supplement at http://chestjournal.chestpubs.org/content/140/6/1668/suppl/DC1.