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REFERENCES


Response

To the Editor:

We thank Dr Medford for his thoughtful comments on our article regarding the use of chest ultrasonography (CUS) in the ED.\(^1\) In his letter, Dr Medford expressed some concerns for the use of CUS before chest radiography as a first-line imaging test.

In general, we would agree with Dr Medford’s concerns if we had proposed the use of CUS in general clinical practice, but we limited the use of this diagnostic tool as a first-line screening modality in the ED. As a consequence, we never proposed the replacement of chest radiography with CUS in the clinical management of all chest/lung diseases. Instead, we presented data supporting the advantages of ultrasonography (eg, less time consuming, absence of ionizing radiations) in the initial evaluation of patients presenting in the ED with acute dyspnea.

Due to this limited and focused use of CUS, the training required to achieve clinical competence is probably shorter than the training suggested by Dr Medford. In effect, the American College of Emergency Physicians Emergency Ultrasound Guidelines\(^1\) propose a 1-day introductory course and a minimum 2-week rotation; a minimum of 150 ultrasound examinations must be performed to acquire a sufficient level of competency. This training duration seems to be significantly shorter than the training duration proposed by the Royal College of Radiology.

If, as suggested by the American College of Emergency Physicians, emergency ultrasonography education is incorporated into the core educational program for all emergency medicine residency programs, in a few years all new emergency physicians will have the required competency, and a critical mass of operators will be available in the ED. Obviously, as for all novel developments, a delay is inevitable before a widespread diffusion of the new methodology is realized.

Regarding the costs associated with the use of ultrasonography in the ED, at least in our experience, almost all EDs had ultrasound equipment. However, as suggested by Dr Medford, further studies must be performed to demonstrate the cost-effectiveness of CUS vs chest radiography. Regarding the detection of pneumothorax, several data demonstrated that small pneumothoraces can be missed by bedside radiography but detected by CUS and subsequently confirmed by chest CT scan.\(^3,4\) In conclusion, we never stated that chest radiography can be eliminated from the workflow of a patient with dyspnea, but our data support the hypothesis that CUS can be a reliable modality for the initial clinical evaluation of these patients in the ED.

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REFERENCES


Lung Transplantation in Coal Workers Pneumoconiosis

To the Editor:

We read with great interest the article by Wade et al\(^1\) in a recent issue of CHEST (June 2011). The authors reviewed the records of 138 coal miners who were diagnosed with coal workers pneumoconiosis (CWP) and developed evidence of progressive massive fibrosis (PMF). The authors reported that several patients had a rapid progression of the disease (5-12 years) and reported 21 deaths (15%) in the cohort during the study period.

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Table 1—Lung Transplantation in Patients With CWP

<table>
<thead>
<tr>
<th>Patient No.</th>
<th>Type of Transplant</th>
<th>CXR Findings</th>
<th>Survival, mo</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>R-SLT 1</td>
<td>PMF</td>
<td>12</td>
</tr>
<tr>
<td>2</td>
<td>Bi-Lat 1</td>
<td>ILO Grade 2</td>
<td>19</td>
</tr>
<tr>
<td>3</td>
<td>Bi-Lat 1</td>
<td>PMF</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>L-SLT 1</td>
<td>PMF</td>
<td>46</td>
</tr>
<tr>
<td>5</td>
<td>L-SLT 1</td>
<td>ILO Grade 2</td>
<td>66</td>
</tr>
<tr>
<td>6</td>
<td>R-SLT 1</td>
<td>PMF</td>
<td>23</td>
</tr>
<tr>
<td>7</td>
<td>R-SLT 1</td>
<td>PMF</td>
<td>69</td>
</tr>
<tr>
<td>8</td>
<td>L-SLT 1</td>
<td>PMF</td>
<td>88</td>
</tr>
</tbody>
</table>

Mean age of patients, 53.5 ± 5 y; eight men; six unilateral transplants and two bilateral transplants. Bi-Lat = bilateral; CRX = chest radiograph; CWP = coal workers pneumoconiosis; ILO = International Labor Organization; L-SLT = left single lung transplant; PMF = progressive massive fibrosis; R-SLT = right single-lung transplant.

Although the morbidity and mortality associated with CWP has decreased in the last half century, recent reports indicate an increased incidence in the percentage of underground coal miners diagnosed with CWP. Moreover, the number of cases of PMF among miners too young to have been in the mines prior to passage of the federal coal mine health and safety legislation in 1969 has continued to increase, resulting in a rise in years of potential life lost before age 65 years.

CWP is a major medical and legal problem in the Appalachian region, where Pennsylvania, West Virginia, Virginia, and Kentucky account for the majority of cases of CWP and PMF in the United States. In addition, reports suggest an increased disease severity, geographical clustering in eastern Kentucky and southwestern Virginia, rapid disease progression, and advanced disease in younger miners.

Patients with CWP develop severe pulmonary physiologic derangements that result in significant morbidity and quality-of-life limitations. Common complications include severe airflow obstruction (COPD and emphysema) and pulmonary hypertension resulting from chronic hypoxemia and vasculopathy associated with PMF.

Based on data from the United Organization for Organ Sharing as of October 1, 2010, occupational lung disease (including CWP) represents an uncommon indication for lung transplantation. To our knowledge, there are currently no available reports of long-term outcomes related to patients with CWP who undergo lung transplantation. We recently presented our experience with lung transplantation in patients with CWP. We reported eight patients with history of CWP who underwent single or bilateral lung transplantation. Overall, patients had no increased risk for perioperative morbidity or mortality resulting from the presence of PMF, and the 1-year and 3-year survival were similar to other indications for lung transplantation (Table 1). Given the high prevalence of CWP in the Appalachian region, we believe efforts should be made to increase awareness among the medical community to encourage the prompt referral of patients with CWP and PMF for transplant evaluation, particularly for those younger than 65 years of age.

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REFERENCES

Response
To the Editor:

We appreciate the input of Dr Diaz-Guzman and his colleagues at the University of Kentucky Transplant Center, who commented on our study of 138 cases of severe and fatal pneumoconiosis in West Virginia coal miners. Their letter reviews some of the recent trends in coal workers pneumoconiosis (CWP) in the United States and summarizes patient survival among eight coal miners with advanced and life-threatening pneumoconiosis who received single and double lung transplants at the Kentucky Center. Their center