Thrombocytosis in Patients With Severe Community-Acquired Pneumonia

To the Editor:

In a recent article in CHEST (February 2010), Mirsaeidi and colleagues found that thrombocytosis (platelet count > 400,000 cells/μL) at the time of hospital admission was a strong predictive factor of mortality in a population of 500 patients with community-acquired pneumonia (CAP). These results contrast with those of numerous previous studies in which thrombocytopenia was the main platelet disorder associated with worse clinical outcome. We believe this conclusion could be explained by the moderate severity of CAP. Among the studied population, only 58% of patients belong to pneumonia severity index risk class 4 and 5, and admission to an ICU concerned only 17.2% of patients. Mortality was relatively low at 10.8% of patients. The authors recommended new studies focusing on the cause of death to determine if an elevated platelet count in patients with CAP is just a marker of the inflammatory response or if it is in part responsible for an increase in mortality. We have recently published a multicenter retrospective study showing, in 822 patients admitted to an ICU for severe CAP, that severe thrombocytopenia (< 50,000 cells/μL) was an independent predictor of mortality. We looked at the impact of thrombocytosis in our patients. The overall ICU mortality rate was 35.4%. Thrombocytosis was present in 70 (5.7%) patients. Among these patients, 24 (34.3%) died. We did not find any difference in outcome compared with patients with thrombocytosis (P > .7). Our patients were more severely ill, with mechanical ventilation required within 12 h following ICU admission in 77.6% of patients and septic shock present in 30.4% of patients. When considering the cause of death according to platelet numbers, we found it was essentially related to sepsis complications in patients with thrombocytopenia (septic refractory shock, n = 18; multorgan failure, n = 17; ARDS, n = 11; nosocomial pneumonia, n = 8), while in patients with thrombocytosis, the cause of death was mostly related to complications of ICU stay or associated comorbidity (P < .007; COPD, n = 3; cerebral vascular ischemia, n = 2; cancer, n = 2; mesenteric ischemia, n = 1; myocardial infarction, n = 1) (Table 1).

Thus, we believe that thrombocytopenia remains an important predictor of outcome in patients with severe CAP. In these patients, thrombocytosis is not associated with worse outcome.

Hugues Georges, MD
Nicolas Brogly, MD
David Olive, MD
Olivier Leroy, MD
Tourcoing, France

REFERENCES

Response

To the Editor:

We agree with Georges and colleagues that in hospitalized patients requiring ICU admission for severe community-acquired pneumonia (CAP), the presence of severe thrombocytopenia should be considered a risk factor for mortality. A low platelet count is a marker of severe sepsis and may indicate the presence of disseminated intravascular coagulation. In our recent article, determining how to best deliver cost-effective health care in the United States.

Zachary DePete, MD
William Gossman, MD
Lee E. Morrow, MD, FCCP
Omaha, NE

Affiliations: From the Department of Internal Medicine (Dr DePete), the Department of Emergency Medicine (Dr Gossman), and the Department of Pulmonary, Critical Care, and Sleep Medicine (Dr Morrow), Creighton University Medical Center.

Financial/nonfinancial disclosures: The authors have reported to CHEST that no potential conflicts of interest exist with any companies/organizations whose products or services may be discussed in this article.

Correspondence to: Lee E. Morrow, MD, FCCP, 601 N 30th St, Ste 3820, Omaha, NE 68131; e-mail: lmorrow@creighton.edu

© 2010 American College of Chest Physicians. Reproduction of this article is prohibited without written permission from the American College of Chest Physicians (http://www.chestpubs.org/site/misc/reprints.xhtml).

DOI: 10.1378/chest.10-1316

Table 1—Cause of Death by Platelet Cell Counts

<table>
<thead>
<tr>
<th>Platelet Cell Counts, μL</th>
<th>Patients, No.</th>
<th>Deaths, No. (%)</th>
<th>Sepsis-Related Deaths, No. (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 100,000</td>
<td>100</td>
<td>54 (54)</td>
<td>49 (90.7)</td>
</tr>
<tr>
<td>100,000-400,000</td>
<td>652</td>
<td>214 (32.8)</td>
<td>179 (83.6)</td>
</tr>
<tr>
<td>&gt; 400,000</td>
<td>70</td>
<td>23 (32.8)</td>
<td>14 (60.8)</td>
</tr>
</tbody>
</table>

www.chestpubs.org

CHEST / 138 / 5 / NOVEMBER, 2010

1279