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DOI: 10.1378/chest.09-2908

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Response

To the Editor:

Regarding our recent article in CHEST (November 2009),¹ the hemoglobin (Hb) of the subjects with anorexia was 13 ± 1 g/dL. The diffusing capacity of lung for carbon monoxide (DLCO) values of subjects with anorexia (and controls) were always corrected, according to the following equation proposed by Cotes et al²:

\[ \text{DLCO (corrected)} = \frac{\text{DLCO (observed)} \times (10.2 + [\text{Hb}])}{1.7 \times [\text{Hb}]} \]

assuming a membrane diffusing capacity/pulmonary capillary blood volume ratio of 0.7 and a reference [Hb] of 14.5 g/dL. Regrettably, we did not mention this correction (which is automatically performed by the computer every time the entered value of Hb is different from 14.5 g/dL) in the Materials and Methods section of our article.

Dr. Johnson is perfectly right, because in the article alveolar volume (VA) is erroneously defined as alveolar ventilation, while it is obvious that VA means alveolar volume (in this case obtained by single-breath helium dilution technique).³ We are very sorry about making such a mistake in the manuscript. On the other hand, Dr. Johnson made the same mistake referring to a paper by Dr. Plummer in a previously published letter to the editor in CHEST.³

There are no doubts that DLCO and the diffusing coefficient of lung for carbon monoxide (KCO) change with VA in opposite and different ways and that these changes are relevant for interpretation of gas transfer in patients with low lung volumes.⁴ In our subjects with anorexia and controls, however, VA was 99 ± 10% predicted and 103 ± 5% predicted (ie, of VA at total lung capacity = total lung capacity predicted – anatomical dead space predicted), respectively. Thus, there is no substantial reason to recalculate DLCO and KCO in percent predicted of volume-corrected DLCO and volume-corrected KCO. In fact, the values obtained are similar (DLCO: 74 ± 14% predicted vs 75 ± 15% predicted in subjects with anorexia and 95 ± 9% predicted vs 94 ± 9% predicted in controls; KCO: 66 ± 18% predicted vs 66 ± 15% predicted in subjects with anorexia and 82 ± 11% predicted vs 83 ± 10% predicted in controls). Dr. Johnson must admit that neither anemia nor VA can explain the difference in DLCO and KCO between subjects with anorexia and matched controls.

We used the European Community for Steel and Coal equations to give the percent predicted of DLCO and KCO, and we agree that those equations seem less consistent for KCO. This applies, of course, for both groups (controls and subjects with anorexia).

By using the formula suggested by Dr. Johnson for calculating predicted KCO, actual KCO amounted to 76 ± 18% predicted for subjects with anorexia and 92 ± 11% predicted for controls, nearly equal to DLCO (as percent predicted) for both groups. Therefore, the presentation of our data could be criticized for KCO in terms of percent predicted, but this does not influence the difference in KCO between subjects with anorexia and matched controls that remains unchanged.

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Morning Rounds Becoming Mourning Rounds?

To the Editor:

In their elaborate study, Afessa et al (December 2009)⁵ suggest a relationship between ICU mortality and admission during morning rounds (8:00 AM-11:00 AM). A relatively small number of the patients (7.2%) were admitted during round time. However, these patients differed from the average ICU admission: They had a higher severity of illness, were less likely to be postoperative, and were more frequently admitted to the medical ICU.

Based on standardized mortality ratio (SMR), which is used to compare observed mortality with predicted mortality, the authors conclude that mortality rate during morning rounds is higher than predicted mortality rate. They pose the question whether patient care during round times falls short. We also work at a mixed ICU with 24/7 coverage of inhouse intensivists/fellows and have rounds from 11:00 AM to 1:00 PM. We recognize this type of patient admitted early in the morning, but we do not think that they get

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DOI: 10.1378/chest.10-0097

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insufficient care once admitted at the ICU. These are usually patients already staying at the (internal) ward and deteriorating during the night. We do not think the SMR is developed to predict mortality of these patients; the Acute Physiology and Chronic Health Evaluation III prognostic scoring is not validated for this particular sample of the whole population. The observed mortality may simply be higher, because, as Afessa et al. indeed state, these patients are more severely ill and because their admission to the ICU has been delayed. We believe that recognizing these patients earlier in the night is more important than trying to change ICU practices that already appear to be of a high standard.  

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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.  
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DOI: 10.1378/chest.09-2952

Response

To the Editor:

We thank Dr Ligtenberg and colleagues for their comments regarding our recent article in CHEST (December 2009) that addressed the association between ICU admission during morning round time and mortality. Our article raised a concern about the possibility of suboptimal patient care during morning rounds. Ligtenberg and colleagues believe that the delay in appropriate care prior to ICU admission, rather than suboptimal ICU care, may be the main factor adversely affecting the outcome of patients admitted to ICU during round times. They highlight the importance of early recognition of patients who are deteriorating in the regular hospital ward.

There are several factors that influence the outcome of hospitalized patients. We agree with Ligtenberg and colleagues that delays in the recognition of critical illness and in timely intervention are likely to increase the mortality of the critically ill. Such delays may occur at both the regular ward and ICU levels. In our study, we adjusted the mortality rates for the severity of illness measured by the Acute Physiology, Age, and Chronic Health Evaluation (APACHE) III prognostic system. Although far from perfect, the APACHE III prognostic system includes the patients’ location before ICU admission, a measure of lead time bias, as one of the predictor variables. Our study findings highlight the opportunities that exist to improve the outcome of patients admitted during morning round time. These opportunities are likely to exist in both the ICUs and regular wards. We believe that appropriate recognition and triage of patients likely to deteriorate, use of rapid response teams, ensuring optimal supervision in both hospital floors and the ICUs, and reorganizing teaching and patient rounds in ways that do not compromise patient care will improve patient outcome. These interventions require customization to the specific ICU and medical center needs.

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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.  
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DOI: 10.1378/chest.10-0007

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