Elevated Blood Urea Nitrogen Is a Predictive Factor for Intensive Care Unit Admission in *Legionella* Pneumonia

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Background

Legionella pneumonia (*L. pneumonia*) is a serious disease among patients with community-acquired pneumonia (CAP). Appropriate initial assessment of severity and admission to intensive care unit (ICU) can reduce mortality due to *L. pneumonia*. Here, the efficacy of using the current CAP scoring for recommending admission to ICU and other variables for initial management were evaluated.

Methods

The clinical characteristics of 11 patients diagnosed with *L. pneumonia* at Maebashi Red Cross Hospital from November 1999 to July 2010 were examined. The scoring systems of A-DROP (A: Age, D: Dehydration, R: Respiration, O: Orientation, and P: Blood Pressure) and CURB-65 (C: Confusion, U: Urea, R: Respiratory rate, B: Blood pressure, and A: Age) were used.

Results

Of the 11 *L. pneumonia* patients, 6 were admitted to the ICU. By A-DROP and CURB-65 scoring systems, 4 cases were assessed as not severe. Among the parameters used in the scores, only elevated blood urea nitrogen (BUN) had significantly predictive potential for ICU admission (sensitivity=100%, specificity=80%, $P<0.02$). Both A-DROP and CURB-65 scoring systems underestimated the severity of CAP caused by *L. species*.

Conclusion

In the case of *L. pneumonia*, elevated BUN level is important for assessing CAP severity and making ICU admission recommendations.

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