

Significance of first arterial carbon dioxide pressure in patients hospitalized with community acquired pneumonia

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Abstract

Introduction: Despite high incidence of community acquired pneumonia (CAP), there is little data about significance of the arterial carbon dioxide pressure (PaCO₂) in prediction of CAP prognosis. This study prospectively evaluated the outcome of hospital admitted CAP based on the first PaCO₂.

Method: From April 2013 to January 2014, CAP patients that admitted in a tertiary university hospital entered in the study. The relation between the first PaCO₂ group (<35, 35–45 and >45) and CURB–65 obtained in emergency ward with duration of hospitalization (< 2weeks, >2weeks), ICU admission and mortality within 28 days in these patients were analyzed by Mann–Whitney test.

Results: Seventy five patients (mean Age: 59.8±17.9; Male: 42/75) were included. The frequencies of ICU admission and mortality were 21% and 8% respectively. Mean values for PaCO₂, and duration of hospitalization were 41.01±12.8 mmHg, and 13.1±11.8 days respectively. Although PaCO₂ had weak correlation with duration of hospitalization (r: 0.361; P: 0.004), the relation between PaCO₂ with duration of hospitalization, ICU admission, and mortality was not significant (P: 0.708, 0.437, and 0.412 respectively). CURB–65 had significant correlation to duration of hospitalization, ICU admission and mortality (P: 0.01, 0.005 and 0.002 respectively).

Conclusion: First PaCO₂ level during hospitalization could not be used as a predictor in hospitalized CAP patients. In contrast, CURB–65 is a reliable predictor of outcome in these patients.

[Pneumonia](#) [Infections](#) [Acute respiratory failure](#)

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