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Title: Clinical outcome and prognostic factors of acute respiratory failure due to pneumocystis pneumonia in non-HIV patients

Dr. Yousang 17750 Ko koyus@naver.com MD [1] and Prof. Dr Kyeongman 17751 Jeon kyeongman.jeon@samsung.com MD [1]. [1] Division of Pulmonary and Critical Care Medicine, Samsung Medical Center, Seoul, Republic of Korea .

Body: Pneumocystis pneumonia is a potentially life-threatening infection that occurs in immunocompromised individuals. While it is well-known that the clinical course of PCP in non-HIV patients differs in HIV-positive patients. But, the ICU mortality of patients with acute respiratory failure requiring mechanical ventilation dose not well known. The objective of this study was to examine the outcome and prognostic factors of ICU mortality in patients with acute respiratory failure caused by Pneumocystis pneumoniat. We conducted a five-year retrospective review (from October 2005 to December 2010) of all patients who had histologic evidence in the non-HIV patients. Of the 44 adult patients investigated, 25 patients (56%) had solid or hematologic malignancies, 17 (33%) had received transplantation and 43 (97%) had received corticosteroid. Median P/f ratio on day 1 was 139 (IQR:116-187), SAPS 3 score on day 1 was 46 (IQR:36058) and SOFA score on day 1 was 7 (IQR:5-9). The ICU mortality rates are 50% (22 patients were died) and associated with high SAPS 3 score (37 vs. 58, p <0.001), high SOFA score (6 vs. 8, p = 0.003) and newly developed shock after ICU admission (18% vs. 68%, p = 0.002). Multivariate Logistic regression analysis demonstrated that SAPS 3 score (OR 1.219, 95% CI 1.086~1.369, p = 0.001) on day 1 and newly developed shock (OR 25.788, 95% CI 2.364~281.301, p = 0.008) after ICU admission were associated with higher ICU mortality. The mortality rate in patients with acute respiratory failure caused by pneumocystis pneumonia was high. Especially, the severity on ICU admission and newly developed shock after ICU admission were related to a poor prognosis.