

O451

Abstract (oral session)

**Human herpesvirus co-infection is associated with an increased risk of death in HIV-negative patients with *Pneumocystis jiroveci* pneumonia admitted to the intensive care unit**

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**Objectives:** We aimed to characterize underlying diseases, outcome and risk factors for death in immunocompromised HIV-negative patients with *Pneumocystis jiroveci* pneumonia (PJP) admitted in intensive care unit (ICU). **Methods:** We performed a retrospective study of all HIV-negative adult patients with PJP documented by bronchoalveolar lavage (BAL) through Gomori-Grocott staining and/or immunofluorescence, admitted in one medical ICU because of acute respiratory failure (ARF), from January 1990 to June 2010. Suspected PJP documented only by polymerase chain reaction were not included. Data were extracted from patients charts through standardized questionnaire. Statistical analysis was done with Z test and chi-2 test.  $P < 0.05$  was considered significant. **Results:** Seventy immunocompromised HIV-negative patients were included, with a mean age of  $59.5 \pm 18.3$  years, and a female-to-male ratio of 24/46. Mean Simplified Acute Physiology Score (SAPS) II was 36.9. Underlying conditions included hematologic malignancies ( $n=21$ , 30%), vasculitis ( $n=13$ , 18.6%), solid tumors ( $n=13$ , 18.6%), inflammatory diseases ( $n=9$ , 12.8%), solid organ transplant ( $n=8$ , 11.4%), and miscellaneous ( $n=6$ , 8.6%). Most patients (82%) had previously received cytotoxic drugs, including cyclophosphamide ( $n=19$ ), anticalcineurin ( $n=9$ ), CHOP regimen ( $n=7$ ), or methotrexate ( $n=6$ ). Fourteen patients (20%) were only on systemic corticosteroids, with a mean daily dose of 33 mg on admission. Endo-tracheal intubation (ETI) was required because of ARF in 42 patients (60%), of whom 38 fulfilled criteria for acute respiratory distress syndrome (ARDS). The mean delay between ICU admission and ETI was  $2.2 \pm 6.1$  days, and the mean duration of mechanical ventilation was  $13.1 \pm 11.4$  days. Overall, 37 patients (52.9%) died in ICU, with a mortality rate at 80.9% and 86.8%, respectively, for patients who required ETI, and for patients with ARDS. In univariate analysis, factors associated with death were SAPS II ( $P=0.0048$ ), ARDS ( $P < 0.0001$ ), shock ( $P < 0.0001$ ), and isolation of herpes-simplex virus or cytomegalovirus on BAL ( $P=0.0027$ ). In multivariate analysis, the only factor independently associated with death was ARDS ( $P < 0.0001$ ). **Conclusion:** The prognosis of HIV-negative immunocompromised patients with PJP admitted in ICU because of ARF is dismal, with an in-ICU mortality of 52.9% overall, rising to 86.8% in patients with ARDS. Co-infection with human-herpes viruses is associated with an increased risk of death.