[Abstract:0646] MS-012 [Accepted: Oral Presentation] [Respiratory Failure and Intensive Care]

Mortality in ARDS Patients Followed up in Pulmonary Intensive Care Unit: Comparison of the risk Assessment at the Time of Diagnosis and After 24 Hours

Merve Atılgan Ala, Esra Bahçivan, Pervin Korkmaz Ekren, Funda Elmas Uysal, Feza Bacakoğlu

Department of Chest Disease, Ege University School of Medicine, İzmir, Turkey

Objectives: The patients with Acute Respiratory Distress Syndrome (ARDS) should be followed up in the intensive care units, since it has difficult management and high mortality rate. The findings after first 24 hours are as important as at the time of diagnosis for risk assessment of this patient group. Instead of PaO2/FiO2, SpO2/FiO2 may be used for prediction of mortality. The aim of the study was to evaluate effects of the parameters including SpO2/FiO2 ratio and PEEP value at the time of diagnosis and after 24 hours on mortality in patients with ARDS.

Methods: The study population was consisted of patients with ARDS which were followed in our third level intensive care unit (from January 2015 to December 2018). ARDS definition was confirmed by Berlin Criteria. Demographic, clinical characteristics, laboratory results and mortality situation of the patients were recorded retrospectively and prospectively.

Results: During the study period, 55 patients were diagnosed with ARDS [61.8% male, median age 59 (48-72), mean APACHE II 21.8±8.3]. Most of the patients had ARDS due to community acquired pneumonia and immunosuppressive pneumonia. Patients were classified as 12.7% mild, 56.4% moderate and 30.9% severe ARDS according to PaO2/FiO2. The mortality ratio was 76.4% during follow up. There was no difference between the dead group and surviving group in respecting to PaO2/FiO2 and SpO2/FiO2 ratios at the time of diagnosis, whereas these values were found significantly lower in the dead group after 24 hours (106 & 184, p=0.002 and 131 & 230, p=0.003, respectively). The cut-off value of SpO2/FiO2 ratio was detected as 180 for PaO2/FiO2 ratio which equaled to 150 at the time of diagnosis and after 24 hours [(AUC: 0.906, p<0.001, sensitivity 86%, specificity 82%) and (AUC: 0.968, p<0.001, sensitivity 91%, specificity 91%)]. According to these findings; patients who had PaO2/FiO2 ≤ 150, SpO2/FiO2 ≤180 and vasopressor therapy on second day had significantly higher mortality rate (p=0.008, p=0.054, p=0.004, respectively). But these results were no obtained for the diagnosis time. When the patients were classified respect to FiO2 and PEEP values at the time of diagnosis and after 24 hours; the highest mortality rate was shown in the patient group with FiO2 ≥ 0.50 and PEEP ≥ 10 after 24 hours.

Conclusion: Mortality rate in patients with ARDS may be accurately predicted with vital parameters and values of mechanical ventilator support on second day than at the time of diagnosis.

Keywords: ARDS, mortality, SpO2/FiO2 ratio