

Category : **Respiratory: monitoring**

A126 - Silent hypoxemia in critical covid-19 patients: prevalence, risk factors and importance of prolonged disease course before icu admission

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Introduction:

Silent hypoxemia (SH) is defined as severe hypoxemia without an increase in respiratory effort. This phenomenon is reported as highly prevalent in COVID-19 patients. The aim of this study was to determine the prevalence and the risk factors of SH in COVID-19 ICU population.

Methods:

This was a retrospective analysis of institutional database of COVID-19 patients treated in the ICU during the year of 2020. The SH was defined as a respiratory rate below 20 bpm and by two groups of PaO₂/FiO₂ ratio: ≤300 to 200 (indicating mild ARDS) and ≤200 (indicating moderate to severe ARDS) upon admission to the ICU; the latter was selected for further analysis. Demographic data, co-morbidities and other variables were entered into the regression analysis of SH risk factors. Statistical analysis was carried out with SPSS IBM v24.

Results:

228 patients were included in the study. 62.3% were women (n=142), mean age of 61.52 (SD=13.5), and APACHE II score of 13.42 (SD=7.21). The prevalence of SH was 18.9% (n=43) in mild ARDS group and 11.8% (n=27) in severe to moderate ARDS group. Univariate regression analysis revealed count of days before admission to ICU (Exp(B)=1.09 CI95: 1.02-1.17, p=0.013) and lymphocyte count (Exp(B)=1.29 CI95: 1.01-1.67, p=0.046) as risk factors of SH. Multivariate regression model of these determinants revealed count of days before admission to ICU (Exp (B)=1.09 CI95: 1.01-1.17, p=0.025) as an independent prognostic factor of SH. Further analysis of days before admission to ICU showed median of 12 [7.8-14.3] for SH group and median of 7.5 [4-11] for non-SH group (p=0.003), overall group – 8 [4-11].

Conclusion:

SH is prevalent in COVID-19 patients and is dependent on the definition criteria. Prolonged disease course before ICU admission is an independent risk factor of SH.