

## Impact of high cardiovascular risk on hospital mortality in patients admitted to intensive care by COVID-19

B.F.O. Gomes<sup>1</sup>, T.M.B. Silva<sup>2</sup>, G.P. Dutra<sup>1</sup>, A.S. Azevedo<sup>1</sup>, D.F.P. Pereira<sup>1</sup>, L.S. Peres<sup>1</sup>, J.H.P. Nascimento<sup>1</sup>, J.L.F. Petriz<sup>1</sup>, P.R. Carmo Junior<sup>1</sup>, B.B. Pereira<sup>2</sup>, G.M.M. Oliveira<sup>2</sup>

<sup>1</sup>Barra D'or Hospital, Rio de Janeiro, Brazil; <sup>2</sup>Federal University of Rio de Janeiro (UFRJ), Rio de Janeiro, Brazil

**Funding Acknowledgement:** Type of funding sources: None.

**Background:** Some studies have shown a higher prevalence of deaths in patients with cardiovascular risk factors (CRF) during hospitalization for COVID-19. The impact of high cardiovascular risk on hospital mortality has not been evaluated.

**Methods:** Retrospective study with patients admitted to intensive care and confirmed diagnosis of COVID-19 by RT-PCR and with at least one measurement of troponin during hospitalization. The criteria for defining a high cardiovascular risk patient (HCR) were: history of established cardiovascular disease (myocardial infarction, stroke, or peripheral arterial disease), diabetes, chronic kidney disease with clearance <60ml/min, or presence of, at least, 3 risk factors (hypertension, smoking, dyslipidemia or age >65 years). The population was divided into 4 groups according to the presence of HCR and elevated troponin. Mortality was assessed using the chi-square method, according to the number of CRF, and was assessed in the 4 pre-determined groups through logistic regression adjusted for severity (using the SAPS3 score).

**Results:** After evaluating 271 admissions during the study period, 236 patients were included for analysis. The mean age was 61.14±16.2 years, with 63.1% men. The prevalence of hypertension was 55.5% and diabetes, 33.1%. 47.4% of the patients had HCR. There was a significant increase in mortality as the number of risk factors increased (no CRF: 5.9%; 1 CRF: 17.5%; 2 CRF: 32.2% and ≥3 CRF: 41.2%; p=0.001). In logistic regression, patients with high cardiovascular risk and high troponin had a higher incidence of hospital mortality (OR 40.38; 95% CI 11.78–138.39). Patients without high cardiovascular risk, but with high troponin also showed a significant association with the primary outcome (OR 16.7; 95% CI 4.45–62.74). In contrast, patients with high cardiovascular risk and normal troponin were not at higher risk of death (OR 2.06; 95% CI 0.56–7.56).

**Conclusion:** In patients admitted to intensive care by COVID-19, the high cardiovascular risk impacts on hospital mortality only in patients who presented an increase in troponin levels.