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PODIUM PRESENTATION

Old critically ill COVID-19 survivors: Patient and in-hospital factors associated with cognitive dysfunction

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Abstract

Background: Cognitive dysfunction (CD) commonly occurs in survivors of critical illness, namely in those with severe respiratory failure, invasive mechanical ventilation (IMV), deep sedation and delirium. Many critically ill patients with COVID-19 are also expected to have an increased risk of CD, which may be exacerbated by specific conditions of hospitalization during COVID-19 pandemic. This study aimed to estimate the frequency of post-discharge CD in first wave COVID-19 survivors and to identify baseline and in-hospital associated factors.

Methods: This study is part of a multidisciplinary longitudinal project (MAPA-Mental health in critically ill COVID-19 patients), that is being conducted in Intensive Care Medicine Department of a Portuguese University Hospital. Patients >60 years, admitted due to COVID-19-associated Pneumonia, were included. Exclusion criteria were: Intensive Care Unit (ICU) length of stay (LoS)≤24h, terminal illness, major sensory loss or inability to communicate at the time of follow-up. Participants were evaluated with Six-item Cognitive Impairment Test (6CIT) by telephone. Baseline demographic, clinical and in-hospital data were collected, including sedation, respiratory support, major complications and LoS. Patients with and without CD after-discharge were compared.

Results: Thirty-two patients were included, with a median age of 72(IQR:64-76) years, mostly were male (66%) and none had previous clinical registry of cognitive impairment or dementia. Nosocomial infection (75%) and difficult weaning from MV (63%) were the most frequent complications. Deep sedation was used in 81% of the patients (median=20 days; IQR:15-42). About 81% needed IMV and 13% were supported with Extracorporeal Membrane Oxygenation (ECMO). Median ICU and hospital LoS were 29(IQR:144-56) and 66(IQR:33-102) days, respectively. Follow-up assessment occurred 93.4 days (IQR:68-120) after-discharge. Based on 6CIT, 16% of survivors had CD. Comparing both groups, those with CD were older (73vs.64; p=0.020), had a higher duration of IMV (73vs.22; p=0.017) and mostly were supported with ECMO (75%vs.25%; p=0.008).

Conclusion: Data suggest that CD is more frequent among older COVID-19 survivors, and those who needed prolonged IMV and ECMO support. Despite full clarification of all mechanisms involved, these findings highlight the importance of a timely and organized post-intensive care response composed by multidisciplinary teams to optimize assistance to survivors of critical illness.