

maiores estiveram relacionados à maior mortalidade e à ocorrência de TEP. Valores de TP elevados relacionaram-se a maior mortalidade, internação em UTI, necessidade de VMI e presença de AVCi. Valores de PCR elevados estiveram relacionados à maior mortalidade, presença de comorbidade, internação em UTI e necessidade de VMI. Demais correlações não apresentaram relevância estatística.

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ANTIVIRAL RESPONSE OF NATURAL KILLER CELLS IN EARLY STAGE OF COVID-19 PATIENTS

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Background: COVID-19 pandemic (SARS-CoV-2) has affected an increasing number of people worldwide, with death rates higher than previous viral epidemics. It is possible that NK cells, known to have great cytokine secreting potential are competent at the onset of the condition and that in some individuals, the viral load is able to exhaust them. Balance between tolerant (CD27- CD11b-), secretory (CD27+ CD11b-/CD27+ CD11b+) and cytotoxic (CD27- CD11b+) NK cells involved in the inflammatory response and their anti-SARS-CoV-2 activity are still not well established. Strategies that can restore function of NK cells against the virus are worth investigating. Here, we aimed to characterize NK cells frequency, functional subtypes and maturation in early phase of COVID-19 patients, by Multiparametric Flow Cytometry (MFC). **Methods:** Peripheral blood from 15 COVID-19 patients in early stage of infection (day 1-14, confirmed by RT-PCR), categorized according comorbidities in: G1 (not oncologic; n = 6), G2 (oncologic; n = 3), G3 (hematologic neoplasms; n = 3) and G4 (without comorbidities; n = 3), and 10 healthy samples enrolled the study. Clinical and laboratorial data were collected from electronic medical records. Samples were stained with CD45, CD19, CD3, CD56, CD11b, CD27, acquired on a FACS Canto II (BD Biosciences) and data analyzed with FlowJo V10 software. **Results:** A lower frequency of lymphocytes was observed in the disease when compared to controls ($P < 0.0001$) and frequency of NK cells were similar in both groups ($P = 0.6605$). Although frequency of CD27- CD11b- NK cells was lower in the disease ($P = 0.0109$), there was a significantly higher frequency of CD27+ CD11b- NK cells in COVID-19 samples when compared to controls ($P < 0.0001$), featuring a mostly immature profile in the disease. On the other hand, no

statistical significance was observed regarding the frequencies of CD27+ CD11b+ ($P = 0.1370$) and CD27- CD11b+ NK cells with a more mature profile ($P = 0.3094$). Amongst disease groups, no statistical significance was found regarding frequency of NK cells and G1 showed lower frequency of CD27- CD11b- NK cells ($P = 0.0226$), while G3 group had an increased frequency of CD27+ CD11b- NK cells ($P = 0.0238$) when compared to the other groups and controls. Finally, no statistical significance was found in the frequency of CD27+ CD11b+ ($P = 0.6691$) and CD27- CD11b+ ($P = 0.6270$) NK cells between disease groups and controls. **Conclusion:** Although the frequency of NK cells did not show a significant difference between COVID-19 patients and healthy controls, our findings showed a possible change in their maturation profile, which seems to be inversely proportional to normal, with the frequency of CD27+ CD11b- NK cells considerably higher in the disease. This phenotype is directly associated with secretory function of a more immature NK cell and is responsible for triggering inflammatory responses that could lead to severe respiratory failure, what seems to be consistent with COVID-19 profile. A high frequency of cytotoxic cells was observed, which seemed to be similar to what we found in normal healthy samples. Even though unregulated maturation might be associated to a dysfunctional mature NK cell, additional studies of cytotoxicity and activation of NK cells in COVID-19 are required to affirm whether there is functional exhaustion or hyperactivation of the cytotoxic subtypes of these cells.

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ASSOCIAÇÃO ENTRE COVID-19 E PÚRPURA TROMBOCITOPÊNICA TROMBÓTICA - RELATO DE CASO

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A Púrpura Trombocitopênica Trombótica (PTT) é uma microangiopatia trombótica difusa causada por uma deficiência adquirida da enzima ADAMTS13. Dentre seus desencadeantes encontram-se os vírus, como, mais recentemente descrito, o Sars-CoV-2. Este relato tem como objetivo evidenciar a associação entre estas duas condições. Tratou-se de uma paciente do sexo feminino, com 33 anos, internada por PTT e com exame de Reação em Cadeia da Polimerase (PCR) positivo para COVID-19. A paciente apresentou anemia hemolítica microangiopática (hemoglobina 5,3 g/dL; VCM 104 fl, esquizócitos em sangue periférico), trombocitopenia grave ($5.000/\text{mm}^3$ plaquetas) e envolvimento neurológico e cardíaco, característicos de PTT. Seu escore PLASMIC foi 6, realizado pela impossibilidade de exames envolvendo a ADAMTS13, sugerindo alta probabilidade de deficiência grave da enzima. Diante disso, a paciente foi tratada com a recomendação terapêutica padrão, iniciando troca plasmática e corticoterapia, com evolução favorável e déficits mínimos. Este é o quarto caso descrito recentemente na literatura que propõe essa associação. Todos os relatos descreveram

