

Article (4)

Severity-related Changes in Laboratory Results During Early Follow-up in COVID-19 Patients Treated with a Novel Cocktail of Stem Cells.

Abstract:

Background and aims: Laboratory tests may play an important role in the follow-up of COVID-19 patients acting as indicators of risk for severity and death. This study aims to explore the significance of certain laboratory tests in the management of COVID-19 patients treated by an autologous novel stem cells cocktail plus standard care. **Methods:** The 69 hospitalized COVID-19 patients recruited in the experimental arm of a clinical trial [NCT04473170] were divided into moderate or severe groups as recommended by WHO. Initial and after 21 days of treatment, laboratory data were analyzed and compared for both groups. The variable association was analyzed using the symmetric Spearman correlation matrix. Multiple linear regression was used for biomarkers most described in COVID-19 by a multivariate study and disease severity association using relative risk (RR) to laboratory variables. **Results:** Positive and strong associations were evidenced between parameters related to coagulation and inflammation markers. We found the strongest positive relationship between the LDH enzyme and IL-6 ($r=0.81$), followed by D-dimer ($r=0.70$). The multivariate study showed a strong influence of D-dimer, IL-6, IgG, and ceruloplasmin on the increased LDH level, with a greater influence of the last ($R=0.71$, $p<0.0001$). RR showed a statistically significant and positive association with COVID-19 severity for WBC (RR=45.2); neutrophil/lymphocyte ratio (NLR) (RR=3.8); IL-6 (RR=1.6); lymphocyte/monocyte ratio (LMR) (RR=1.5); and RR=1.3 for platelets/lymphocyte ratio (PLR), ferritin, and LDH. **Conclusions:** Risk assessment of severity using this laboratory variable is important.