ABSTRACTS

Analysis of complete blood count parameters throughout disease severity in COVID-19 survivors

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Background: The pandemic of Coronavirus disease 2019 (COVID-19) represented a scientific and social crisis. Among the most pressing unmet needs for coronavirus disease in 2019 was its unpredictable clinical course, which resulted in an irreversible outcome. The presence of post-acute COVID-19 syndrome in survivors, as well as the exploration of different blood cell counts in Covid 19 survivors, seems to be unclear, and scientific data is still being summarized. Patients can be divided into three categories: mild, moderate, and severe in terms of infection severity. Platelets, white blood cell total count, lymphocytes, neutrophils and hemoglobin levels have all been linked to COVID-19 infection and severity. In this regard, evaluation of hematological abnormalities at the beginning, during and after COVID-19 infection and during COVID-19 that can be indicative of prognosis in the recovery phase. The purpose of this study was to analyze the complete blood picture among COVID-19 survivors & co-relate it with disease severity which can be implemented as a prognostic biomarker of the disease.

Methods: This was a hospital-based cross-sectional prospective study conducted from June 2021 to September 2021 at a tertiary care center. Participants who recovered from COVID-19 were divided into three categories: Mild, Moderate & Severely infected. Complete Blood Count (CBC) parameters were assessed as continuous variables. Results obtained were subjected to Kruskal-Wallis's rank sum test & descriptive analysis was done by measuring central tendency in terms of median and IQR.

Results: 140 COVID survivors {66.4% male/33.5% female} mean age 18-65 years were enrolled. Hb, blood indices, WBC count, neutrophil, eosinophil, basophil, and lymphocyte count were found to be correlated with disease severity. All parameters showed insignificant changes ($p>0.05$), with the exception of Basophil estimates, which were found to be significantly associated with disease severity in covid 19 survivors ($p<0.05$).

Discussion: A number of hematologic changes are linked to the severity and clinical outcome of recovered COVID-19 patients. In our study, basophils were having significant correlation with disease severity which suggests that basophils can serve as a prognostic biomarker among COVID-19 survivors over the recovery period. Significant increase in basophil count also suggests, allergic pathogenesis of COVID-19 which needs to be further investigated. Studies with larger sample size and randomization are needed to confirm the findings of this study

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