

## Platelet to lymphocyte ratio as a tool for determining the severity of SARS-CoV-2 infection among hospitalized patients

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There are several markers used for determining SARS-CoV-2 disease severity and evolution. Recent studies highlighted the Platelet to Lymphocyte Ratio (PLR) as a tool for assessing the risk of progression to severe disease.

The aim of our study was to evaluate the PLR together with SARS-CoV-2 associated clinical, biological and imagistic markers and to determine its value in assessing the infection severity.

Positive SARS-CoV-2 adult patients hospitalized in INBI were enrolled in the study. PLR, clinical parameters (clinical disease, dyspnea etc.), biological parameters (hemogram, inflammatory markers, liver injury marker enzymes etc.) as well as imagistic parameters (CT pneumonia pattern) were evaluated.

395 patients were enrolled in the study, among which 147 women (AA:  $61,3 \pm 14,1$  years) and 248 men (AA:  $65,49 \pm 14,8$  years). The median of the PLR values was significantly higher in the cases of patients requiring oxygen supplementation upon admission (178 vs. 232 among those without,  $p=0.000$ ), patients having severe clinical disease (248 vs. 186 among those with mild disease,  $p=0.000$ ), as well as among patients with severe chest CT lung abnormalities (271 vs. 218 among those presenting moderate chest CT lung abnormalities and 154 for those with mild abnormalities,  $p=0.000$ ).

Higher median PLR values were found among patients exhibiting dyspnea (225 vs. 185 in the case of patients without it,  $p=0.003$ ), among patients presenting polypnea (232 vs. 197 among those without it,  $p=0.001$ ), as well as among patients requiring antibiotic treatment (212 vs. 189,  $p=0.002$ ).

The presence of symptoms ( $p=0.7$ ), obesity ( $p=0.44$ ), asthenia ( $p=0.37$ ), liver cytolysis during the admission ( $p=0.709$ ) and high ferritin blood levels ( $p=0.52$ ) provided no statistically significant correlations.

PLR correlates with clinical, biological and imagistic markers of SARS-CoV-2 disease severity and could therefore be readily used as a tool for determining the severity of SARS-CoV-2 infection even in underdeveloped healthcare systems, especially considering its cost-efficiency and ease of use.

### Biography

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