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SIGNIFICANCE OF SARS-COV-2 PCR POSITIVE AND NEGATIVE RESULTS IN THE CLINICAL COURSE AND LABORATORY PARAMETERS OF COVID-19

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Abstract

Background: The COVID-19 pandemic has posed an unprecedented global public health challenge. Since the beginning of the COVID-19 pandemic, accurate case identification has been essential for patient management, surveillance, and epidemiological control. Although RT-PCR testing remains the gold standard for confirming SARS-CoV-2 infection, false-negative results may occur due to sampling errors, timing of testing, or low viral load. Therefore, clinical judgment and epidemiological context remain critical in diagnosing suspected cases. The WHO recommends the use of the ICD-10 code U07.2 when SARS-CoV-2 is not identified, but a clinical and epidemiological diagnosis of COVID-19 is present. In this study, comparative characteristics of clinical and laboratory parameters in COVID-19 PCR-positive and PCR-negative patients were analyzed.

Methods: The total study population consisted of 266 patients, including 116 men (43.6%) and 150 women (56.4%). Polymerase chain reaction (PCR) examination of nasopharyngeal swabs was carried out to detect SARS-CoV-2 RNA . Clinical and laboratory data (hemoglobin, erythrocytes, leukocytes, platelets, etc.) from 266 hospitalized patients were collected and statistically analyzed using SPSS software .

Results: Out of 266 patients, 154 had positive PCR results, and 112 had negative PCR results. Statistically significant differences were observed only in the frequency of fever and loss of taste between the PCR groups ($p < 0.05$). In the PCR-positive group, women were more likely to complain of dyspnea and nausea. In the PCR-negative group, men were more likely to experience fever ($p < 0.05$) and dyspnea ($p < 0.05$), but women complained of nausea more often ($p < 0.05$). PCR-negative patients were found twice as frequently to have swelling of the lower extremities and dehydration ($p < 0.05$), probably due to a higher incidence of renal and cardiovascular diseases ($p < 0.05$). Impaired vesicular breathing was more frequently observed in PCR-negative patients ($p < 0.05$). The mean platelet count in PCR-positive patients was significantly lower ($p < 0.05$), and the frequency of low lymphocyte counts was significantly higher ($p < 0.05$) compared with PCR-negative patients.

Conclusions: I n COVID-19 PCR-negative patients, complex changes in clinical and laboratory parameters were similar to those observed in PCR-positive patients.

Keywords: *COVID-19; PCR positive patients; PCR negative patients; clinical and laboratory parameters*

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