The role of laboratory parameters in COVID-19 diagnosis

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Dear Editor,

Recently, the COVID-19 disease has become a global health threat (1-5). Until today, different laboratory methods have been introduced for the diagnosis of COVID-19, but the gold standard method is RT-PCR (3). Moreover, several laboratory parameters have been reported to help to early diagnose the disease (1). Therefore, the current study aimed to evaluate the diagnostic applicability of some laboratory indices with a focus on C-reactive protein (CRP), as well as white blood cell (WBC) and lymphocyte counts that are more requested by our local physicians in 33 patients with a confirmed diagnosis of COVID-19 based on seropositivity for anti-SARS-CoV-2 IgM or IgG. Totally, 45.4% (n=15) of the cases had positive CRP results, and WBC and lymphocyte counts were normal in 72.7% (n=24) and 75.7% (n=25) of the patients, respectively (Figure1).

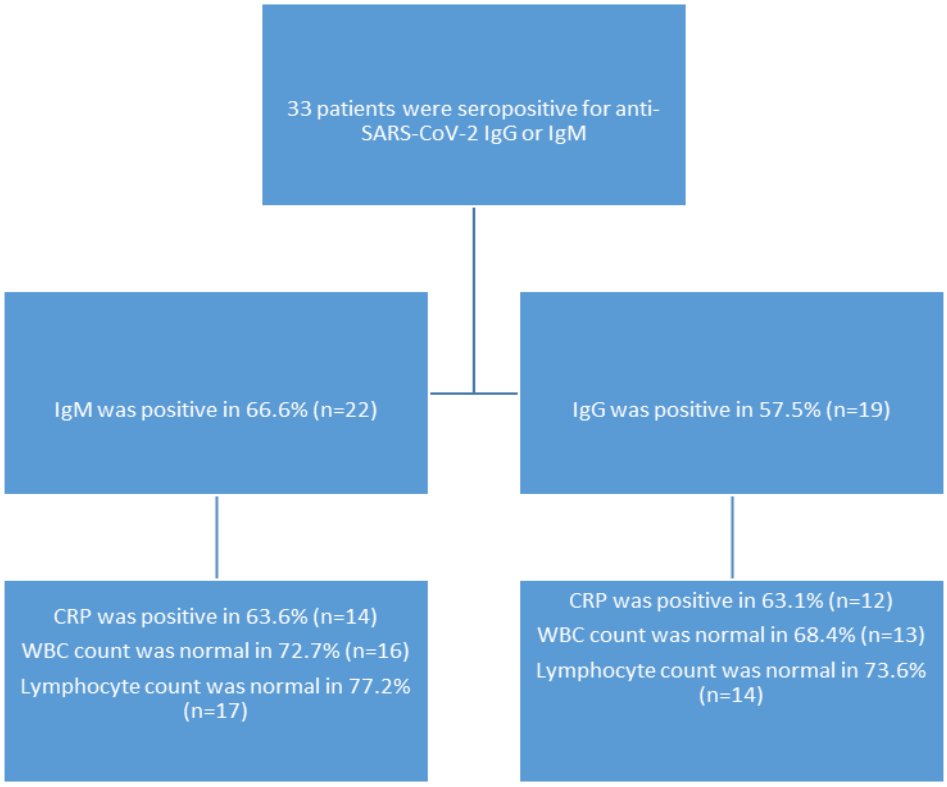


Figure 1. Laboratory characteristics of COVID-19 patients with either anti-SARS-CoV-2 IgM or IgG, seropositivity.

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Our results showed no significant association comparing the assessed laboratory characteristics between COVID-19 patients with seropositivity for either anti-SARS-CoV-2 IgM or IgG (P value> 0.05). Bao et al. suggested that the interpretation of COVID-19 patients' laboratory characteristics should be based on the disease severity (2). As all of our cases were outpatients, this may explain our results regarding no differences comparing the laboratory parameters between the two assessed groups. In addition to laboratory characteristics, some COVID-19 patients may have certain features in chest CT scan, that can be helpful for early diagnosis (6). Overall, using a standard COVID-19 diagnostic algorithm with adequate information in medical centers (such as the one reported by Ayebare et al.) is useful to better screen and diagnose the COVID-19 disease at early phases (Figure 2) (1).

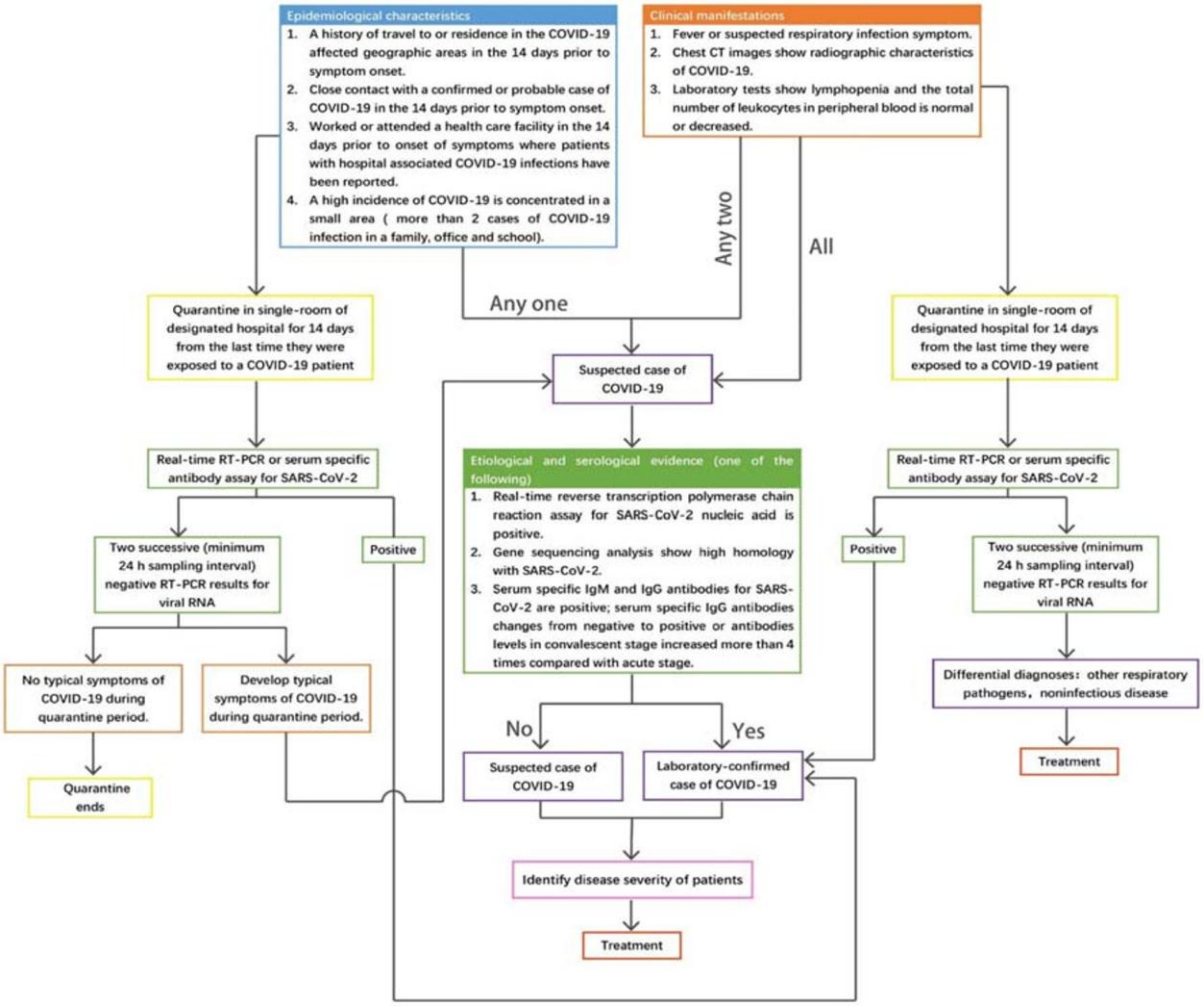


Figure 2. An algorithm for the COVID-19 diagnosis; SpO_2=oxygen saturation; IPC=infection prevention and control; RR=respiratory rate (1).

Finally, although RT-PCR is the gold standard technique for COVID-19 diagnosis, a combination of serological methods, laboratory characteristics, and chest CT image can be used to timely screen and early diagnose the COVID-19, especially in low-income organizations.

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