

Accuracy of RT-PCR Test in diagnosing COVID-19: A retrospective Study

By: Zahedi, R (Zahedi, Razieh)^[1]; Khorshidsavar, H (Khorshidsavar, Haniye)^[2]; Rahmanian, V (Rahmanian, Vahid)^[2]; Sharifi, N (Sharifi, Nader)^[2]

Abstract

Background: The aim of this study was to compare the accuracy of a real-time reverse transcription polymerase chain reaction (RT-PCR) test in severe and critical cases of covid-19 if computerized tomography scan (CT) scan was considered as a reference test.

Methods: This retrospective study was conducted on hospitalized patients in the referral hospital of covid-19 in the southeast of Fars province in Iran. The criteria for critical cases were as follows: invasive mechanical ventilation, admission to intensive care unit (ICU), or death. Also, those patients who needed oxygen support were categorized as severe cases. Sensitivity, specificity, and predictive values were estimated to compare the accuracy of RT-PCR test in severe and critical cases.

Results: This study described the higher accuracy (72.8 vs 65.6), sensitivity (73.2 vs 63.4), specificity (69.9 vs 65.2), and negative predictive values (28 vs 15.9) of RT-PCR test in severe cases and critical cases, respectively. On the other hand, the positive predictive value of RT-PCR test was higher among critical cases than severe cases (99.4 vs 94.2, respectively).

Conclusion: The accuracy of RT-PCR test, if CT scan is considered as a reference test, was lower in critical cases than in severe cases of covid-19. Therefore, the false negative of RT-PCR test if the CT scan is positive can predict lower prognosis in covid-19 patients.

Keywords

Author Keywords: Accuracy; Sensitivity; Specificity; predictive value; RT-PCR test; Covid-19