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Results: Between 30th March to 29th June 2020, a total of 727 COVID-19 positive cases were diagnosed at VRDL, SMCH. During these three months only two HIV patients were diagnosed with SARS-CoV-2 infection. Patient-1 was 20-year old male (unaware of his HIV status) while Patient-2 was 52 year old army personnel (on ART therapy). In patient-2 HIV was well suppressed with sufficiently high CD4 counts. Fortunately, both the patients were asymptomatic and healthy. The mainstay of treatment given for the patients consisted of hydroxy-chloroquine, multi-vitamins in addition to the ART drugs (only patient 2). Both patients had stable health conditions, did not have any complications during their entire stay in health care facility for COVID-19. Both were treated and were tested negative by RTPCR within 14-15 days like any other general patient.

Conclusions: Although, HIV patients are considered as immunocompromised, but our experience suggests that well controlled HIV patients with COVID-19 may have satisfactory prognosis following proper medical care. Further, enlarged cohort studies are needed to better understand risk and clinical course of COVID-19 among HIV-infected people.

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PROLONG SHEDDING OF SARS COV-2 IN LEUKEMIA PATIENT: FIRST COVID-19 CASE OF ASSAM, NORTH-EASTERN INDIA

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Background: Severe acute respiratory syndrome coronavirus-2 is the virus that causes the respiratory illness coronavirus disease-2019 (COVID-19) that has infected millions of people worldwide. It has been reported that by the end of March

2020, this pandemic has affected almost 400 000 people in 168 countries on five continents. Older patients and those with comorbidities present with more severe infection and worse prognosis.

Methods: A 52 year old male CML patient with fever and diabetes has reported at the COVID screening area of Silchar Medical College & Hospital (SMCH) for COVID-19 testing. Patient's nasopharyngeal and oropharyngeal swabs were taken for real time-PCR testing. Similar procedure was repeated for follow-up of samples.

Results: Patient was confirmed COVID-19 positive by real time-PCR at VRDL, SMCH on 30th March, 2020, this was the first COVID-19 positive case reported from Assam. The patient admitted that he visited the COVID -19 hotspot in New Delhi in the second week of March and developed cough and fever subsequently. He was kept in isolation and under continuous monitoring by physicians. Within 10 days patient's temperature returned to normal with improvement in symptoms. However, repeated real-time RT-PCR test remained positive for COVID-19 infection till the 35th day of first positive declaration. This case is interesting because the estimated incubation period for COVID -19 infection was thought to be no more than 14 days. However, a retrospective review of the patient's condition suggested an incubation period of more than 35 days.

Conclusions: The clinical and biochemical data of COVID-19 might be partly masked by coexisting CML and prolonged shedding of virus may pose high risk to general population. Therefore individuals who are immunosuppressed must always be vigilant to protect their health, and that vigilance must extend to caregivers, as well.

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INTERPRETATION OF FALSE NEGATIVE TESTS FOR SARS-COV-2 INFECTION - CHALLENGES AND SOLUTIONS

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Background: A prospective study was conducted by Department of Molecular diagnostic laboratory, Deccan College of Medical Sciences to assess the

importance of interpretation of a COVID-19 test result. This study strongly encourages us to manage patients with a high pre-clinical likelihood and typical clinical and radiological features as affected by COVID - 19, independently of the result of real-time RT-PCR, especially if performed on specimens collected from the upper air- ways. Acquisition of lower respiratory tract samples should be considered in the event of one or more negative RT -PCR assays.

Methods: Out of 500 cases, 400 suspicious of COVID-19 affected patients were subjected to HRCT, simultaneously after admission their Nasopharyngeal and Oro-pharyngeal swabs for RT- PCR Assays. Laboratory diagnosis through RT-PCR testing alone lacks adequate sensitivity and specificity to be recommended as the only valid criterion to confirm COVID - 19 diagnosis. The leading role played by CT scan and repeat RT-PCR assay in the identification and management of especially false-negative patients with COVID-19 has been highlighted in this study.

Results: 24 cases were found to positive after retested by RT-PCR. Real-time RT-PCR has intrinsic limitations that might significantly affect its accuracy in the diagnosis of COVID-19. False-negative results may depend on several pre-analytical and analytical vulnerabilities, during specimen collection, transport, execution of test outside of the diagnostic window, PCR inhibitors, use of non-validated assays. Moreover, the development of recombinant forms of SARS-CoV-2 may adversely affect the diagnostic accuracy of nucleic acid-based assays.

Conclusions: If Covid-19 is suspected HRCT scan should be performed at hospital admission, together with or even before or repeat sample, as this has been shown to correctly lead the clinical management yet from the earliest stage of the disease and to provide the highest detection rate after a very short time from symptoms onset. Hence, accurate diagnosis of SARS-CoV-2 holds the key in containing COVID-19 pandemic.

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COMPARISON OF EIGHT RT-PCR KITS FOR DIAGNOSIS OF COVID-19 IN A TERTIARY CARE HOSPITAL

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Background: Coronavirus disease 2019 (COVID-19), caused by the Severe Acute Respiratory Syndrome Coronavirus-2 (SARS CoV-2) was declared as a pandemic on March 11, 2020 by WHO. Laboratory diagnosis is essential not only for diagnosis and management but is also required for containment and mitigation strategies to prevent the transmission. Multiple ICMR- approved RT-PCR kits are currently available which are being used for diagnosis of COVID-19. This study was carried out with the aim to compare the Sensitivity, Specificity, Positive Predictive Value (PPV), Negative Predictive Value (NPV) and agreement of the eight different RT-PCR kits for the diagnosis of COVID-19

Methods: The study was performed in Department of Microbiology, ABVIMS & Dr RMLH, and New Delhi. A total of 45 nasopharyngeal and/or oropharyngeal swabs in VTM from suspected COVID-19 patients were received in the laboratory for RT-PCR. These samples were tested by 8 different ICMR approved RT-PCR kits with different gene targets. The comparison was made with NIV, Pune COVID-19 RT-PCR kit. Sensitivity, Specificity, PPV and NPV were calculated for each kit. Agreement of different kits was evaluated using Kappa analysis.

Results: The results of the 45 samples of suspected COVID-19 cases were recorded as per the cycle threshold (Ct) provided in the kit insert. Of these, 15 samples detected both E and RdRp genes and 30 were negative for both the genes of SARS CoV-2 by NIV, Pune COVID-19 RT-PCR kit. 15 samples which were positive by NIV, Pune kit were positive by all other kits. Three kits showed 100% agreement with NIV, Pune COVID-19 RT-PCR kit and 4 kits had agreement of 91%, 81% 75% and 66% respectively.

Conclusions: The reporting should be carried as per manufacturer's instruction. However, samples having Ct values ≥ 35 showed variable results with different RT- PCR kits; hence the results should be interpreted with caution.

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