Kemampuan pemerikasaan COVID-19 AG (standard Q SD biosensor) pada pasien supek dan konfirmasi COVID-19 di Unit Rawat Jalan RS dr. Cipto Mangunkusumo berdasarkan nilai CT rRT-PCR SARS-CoV-2 = Performance of COVID-19 Ag (standard Q SD biosensor) in suspected and confirmed COVID-19 patients visiting dr. Cipto Mangunkusumo Hospital Outpatient Unit in conjunction with SARS-CoV-2 rRT-PCR CT value

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Abstrak

Rapid swab antigen SARS-CoV-2 merupakan pemeriksaan alternatif dalam mendeteksi SARS-CoV-2. Salah satu faktor yang mempengaruhi pemeriksaan rapid swab antigen SARS-CoV-ialah viral load yang direpresentasikan dengan cycle threshold (CT) pada pemeriksaan rRT-PCR. Hasil CT yang tinggi membuat sensitivitas pemeriksaan rapid swab antigen SARS-CoV-2 rendah. Tujuan utama pada penelitian ialah untuk menentukan nilai CT tertinggi pada pemeriksaan rRT-PCR yang mampu memberikan hasil reaktif pada pemeriksaan COVID-19 Ag (Standard Q SD Biosensor). Penelitian merupakan penelitian observasional dengan metode potong lintang dilakukan pada poliklinik demam RS dr. Cipto Mangunkusumo pada tanggal Juli 2020- Desember 2021. Total subjek dalam penelitian berjumlah 235 terdiri dari 24,7% subjek dengan rRT-PCR SARS-CoV-2 positif dan 75,3% subjek dengan rRT-PCR SARS-CoV-2 negatif. Median CT tertinggi pada pemeriksaan rRT-PCR SARS-CoV-2 yang mampu memberikan hasil reaktif pada pemeriksaan COVID-19 Ag (Standard Q SD Biosensor) ialah 28,22 (13,33- 39,16), sedangkan median CT tertinggi pada COVID-19 Ag (Standard Q SD Biosensor) non-reaktif ialah 34,45 (26,08-39,65). Sensitivitas, spesifisitas, NPV, PPV, dan LR positif dan LR negatif hasil COVID-19 Ag (Standard Q SD Biosensor) pada CT 40 adalah 63.8%, 99.4%, 89.3%, 97.4%, 112.9, dan 0.4. Pada CT 33 sensitivitas, spesifisitas, NPV, PPV, dan LR positif dan LR negatif ialah 77.1%, 99.4%, 95.7%, 96.4%, 136.5, dan 0.2 sedangkan pada CT 25 sensitivitas, spesifisitas, NPV, PPV, dan LR positif dan LR negatif adalah 92.3%, 99.4%, 99.4%, 92.3%, 163.4, dan 0.1. Titik potong CT rRT-PCR SARS-CoV-2 tertinggi ialah 26,06 dengan hasil sensitivitas 100% dan spesifisitas 99,4%. Pemeriksaan COVID-19 Ag (Standard Q SD Biosensor) dapat dipakai untuk keperluan diagnosis, contact tracing atau community surveilance.

.....SARS-CoV-2 rapid antigen swab is an alternative test for detecting SARS-CoV-2 infection. One of the factors that influence the examination is viral load, which is represented by the cycle threshold (CT) in the rRT-PCR examination. The higher CT value will result in lower sensitivity of SARS-CoV-2 rapid antigen swab examination. The main objective of the study was to determine the highest CT value in rRT-PCR examination which still able to give reactive results on the COVID-19 Ag test (Standard Q SD Biosensor). The study was a cross-sectional study carried out at the fever polyclinic in dr. Cipto Mangunkusumo Hospital between July 2020 - December 2021. The study consisted of 235 subjects, 24.7% of subjects were SARS-CoV-2 positives and 75.3% of subjects were negative for SARS-CoV-2 infections. Median highest CT value in the SARS-CoV-2 rRT-PCR examination which able to give reactive results on the COVID-19 Ag (Standard Q SD Biosensor) test was 28.22 (13.33-39.16) while the median CT value on the non-reactive COVID-19 Ag (Standard Q SD Biosensor) was 34.45 (26.08-39.65). The sensitivity, specificity, NPV, PPV,

and LR positive and LR negative results of COVID-19 Ag (Standard Q SD Biosensor) were 63.8%, 99.4%, 89.3%, 97.4%, 112.9, and 0.4 at CT value 40. The sensitivity, specificity, NPV, PPV, and LR positive and LR negative at CT value 33 were 77.1%, 99.4%, 95.7%, 96.4%, 136.5, and 0.2, while at CT 25 sensitivity, specificity, NPV, PPV, and LR positive and LR negative were 92.3%, 99.4%, 99.4%, 92.3%, 163.4, and 0.1. The cut-off point for the highest CT value was 26.06 with a sensitivity of 100% and a specificity of 99.4%. In conclusion, COVID-19 Ag (Standard Q SD Biosensor) was acceptable for diagnosis, contact tracing or community surveillance.