# Pengaruh Berkumur Iodin Povidon 0.5% dan Iodin Povidon 1% terhadap Nilai CT RT-PCR Sars-Cov-2 dan Nilai Saturasi Oksigen (Uji In Vivo pada Pasien Covid-19 tanpa Gejala dan Gejala Ringan) = Effect of Rinsing with 0.5% Povidon Iodin and Povidon Iodin on Sars-Cov-2 RT-PCR CT Values and Oxygen Saturation Values (In Vivo Test in Covid-19 Patients without Symptoms and Mild Symptoms)

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Abstrak

Latar Belakang: Pandemi COVID-19 yang saat ini sedang terjadi meningkatkan kesadaran akan risiko penularan di ruang operasi dari virus Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2). Dokter spesialis bedah mulut dan maksilofasial pada khususnya merupakan profesi yang rentan terhadap transmisi SARS-CoV-2 hal tersebut disebabkan karena ruang lingkup pekerjaan yang erat kaitannya dengan reservoir SARS-CoV-2 yaitu rongga mulut dan orofaring. American Dental Association (ADA), Centers for Disease Control and Prevention (CDC) dan petunjuk klinis Kementrian Kesehatan Republik Indonesia menganjurkan berkumur dengan iodin povidon sebelum tindakan kedokteran gigi. Nilai cycle threshold (CT) dari hasil pemeriksaan real time reverse transcription polymerase chain reaction (RT-PCR) merepresentasikan secara semikuantitatif viral load.

Tujuan Penelitian: Menganalisis pengaruh berkumur iodin povidon 1% dan iodin povidon 0.5% terhadap nilai CT RT-PCR SARS-CoV-2 dan nilai saturasi oksigen.

Metode Penelitian: 42 subjek penelitian diambil dari pasien Rumah Sakit Umum Pusat Persahabatan yang terinfeksi SARS-CoV-2 sesuai kriteria inklusi dan ekslusi. Subjek penelitian dibagi ke dalam kelompok iodin povidon 1%, kelompok iodin povidon 0.5%, dan kelompok kontrol. Subjek penelitian berkumur 30 detik di rongga mulut dan 30 detik di tenggorokan belakang dengan 15 ml sebanyak 3 kali sehari selama 5 hari. Analisis nilai CT dilakukan melalui pemeriksaan RT-PCR pada hari ke-1, hari ke-3, dan hari ke-5 setelah berkumur.

Hasil: perbedaan bermakna didapatkan pada hasil uji Friedman dan tampak peningkatan nilai CT RT-PCR mulai dari awal, hari ke-1, hari ke-3, dan hari ke- 5 pada keseluruhan kelompok dan masing-masing kelompok perlakuan. Hasil uji Post- Hoc dengan Wilcoxon menunjukkan perbedaan bermakna pada keseluruhan kelompok hari nilai CT RT-PCR dari keseluruhan kelompok dan kelompok iodin povidon 1%. Perbedaan bermakna sebagian besar kelompok hari nilai CT RT-PCR ditemukan dari hasil uji Post-Hoc dengan Wilcoxon pada kelompok iodin povidon 0.5% dan kelompok iodin povidon 1%. Peningkatan tertinggi nilai CT RT-PCR awal hingga hari ke-1 ditemukan pada kelompok iodin povidon 0.5% sedangkan antara hari ke-1 hingga ke-3 dan hari ke-3 hingga hari ke-5 ditemukan pada kelompok iodin povidon 1%. Usia dan jenis kelamin ditemukan tidak memiliki hubungan yang bermakna terhadap perubahan nilai CT RT-PCR.Peningkatan nilai CT RT-PCR tidak menyebabkan pengaruh terhadap nilai saturasi oksigen.

Kesimpulan: Berkumur iodin povidon 1% dan iodin povidon 0.5% berpengaruh terhadap peningkatan nilai CT RT-PCR SARS-CoV-2 dan berkumur dengan iodin povidon 1% atau iodin povidon 0.5% dapat mempertahankan saturasi oksigen dalam rentang normal 96%-99%.
.....Background: The current COVID-19 pandemic is raising awareness of the risk of transmission in the operating room from the Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2). Oral and maxillofacial surgeons in particular are professions that are vulnerable to the transmission of SARS-CoV-2, this is because the scope of work is closely related to the SARS-CoV-2 reservoir, namely the oral cavity and oropharynx. The American Dental Association (ADA) and the Centers for Disease Control and Prevention (CDC) and the clinical guidelines of the Ministry of Health Republic of Indonesia recommend gargling with iodine povidon before commencing any surgical treatment. The cycle threshold (CT) value from the real time reverse transcription polymerase chain reaction (RT-PCR) examination semi-quantitatively represents the viral load. Low blood oxygen levels or hypoxia can be defined as a measurable oxygen saturation below 94% in patients without lung disease.

Objective: To analyze the effect of mouthrinsing and gargling with iodine povidone 1% and iodine povidone 0.5% on the CT value of SARS-CoV-2.

Methods: 42 subjects were patients recruited from Persahabatan General Hospital infected with SARS-CoV-2 according to the inclusion and exclusion criteria. The subjects were divided into iodine povidone 1% group, iodine povidone 0.5% group, and the control group. The subjects were instructed to rinse their mouths for 30 seconds and gargle for 30 seconds at the back of the throat with 15 mL of the mouthrinse 3 times a day for 5 days. Analysis of CT values were carried out using RT-PCR on day 1, day 3 and day 5 after mouthrinsing and gargling.

Results: Significant differences were found in the results of the Friedman test, and the CT value demonstrated increases from the initial, day 1, day 3 and day 5 in the whole group and each group. The results of the Post-Hoc test with Wilcoxon showed significant differences in the whole day group of the CT value of the whole group and the iodine povidone 1% group. Significant differences in most of the day group were found from the results of the Post-Hoc test with Wilcoxon in the iodine povidone 0.5% group and the iodine povidone 1%, except between day 1 and day 3 and between day 3 and day 5 in the iodine povidone 0.5% group and between day 3 and day 5 in the control group. The highest increase in the initial CT value until day 1 was found in the iodine povidone 1%. Age and gender showed no significant correlation with changes in CT values. The increasing of CT value of RT-PCR did not cause any effect on oxgen saturation values, the saturation values remain normal.

Conclusion: Mouthrinsing and gargling with iodine povidone 1% and iodine povidone 0.5% had an effect on increasing the CT value of RT-PCR SARS-CoV-2 and also could maintain oxygen saturation in the normal range between 96-99%.