A Pilot Study to Evaluate the Effectiveness of Nasal and Oral Povidone Iodine in Reducing the Burden of SARS-CoV-2 RNA in Patients with COVID-19

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Background

- Severe Acute Respiratory Syndrome 2 (SARS-CoV-2) is spread via aerosols and droplets produced by breathing, sneezing, and coughing of an infected individual
- Nasal and oral application of povidone iodine could potentially reduce the risk for transmission of SARS-CoV-2
- Limited information is available on use of topical antiseptics to reduce the viral burden of SARS-CoV-2

Methods

- Non-blinded randomized trial, comparing povidone iodine (N=10) and saline (N=8)
- Treatment group: povidone iodine 10% nasal swab and 1% gargle (Figure 1)
- Doses given every 8 hours (0, 8, and 16 hours) and samples were collected before the 1st and 2nd dose, and 8 hours after dose 3
- RT-qPCR assay used to evaluate viral burden

Figure 1

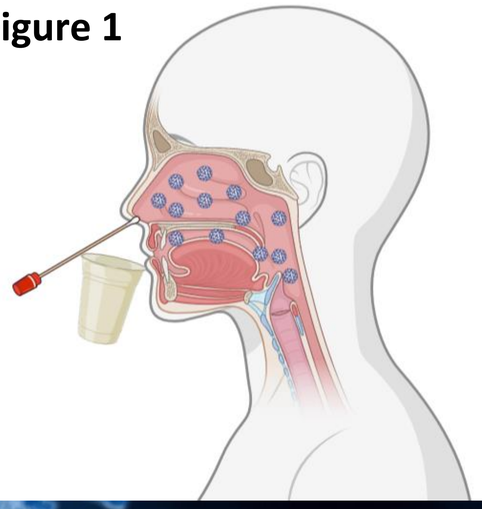


Figure 2

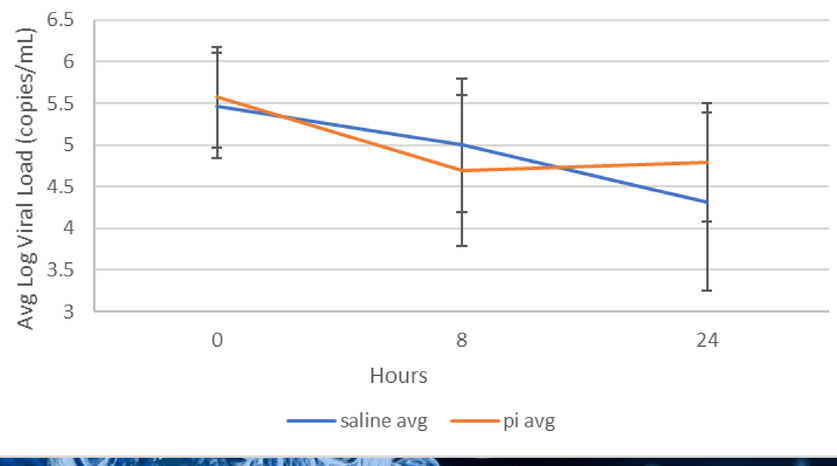
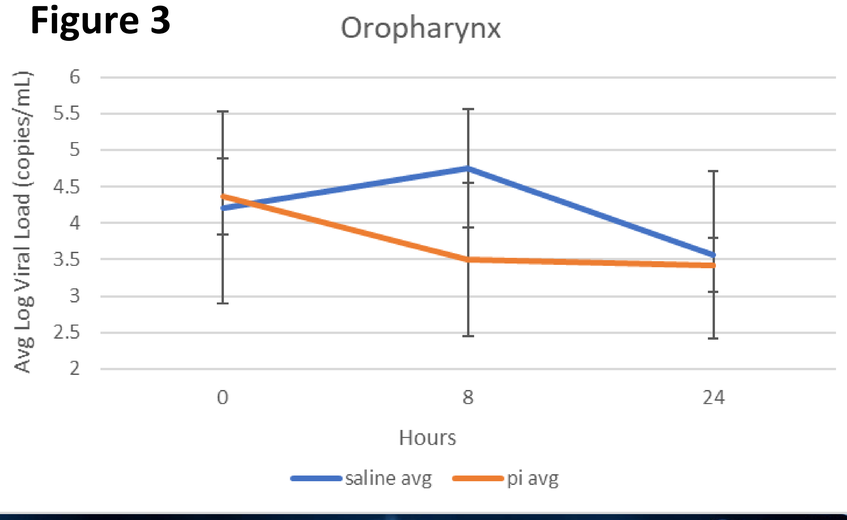


Figure 3



Results

- The povidone iodine and control groups did not differ in age, female sex, or frequency of treatment with dexamethasone and/or remdesivir (50% and 50%)
- The viral burden was equivalent in treatment and control groups prior to initial dosing (Fig. 2 and 3)
- Povidone iodine treatment did not reduce the viral burden in comparison to saline controls (Fig. 2 and 3)
- No reported adverse effects of treatment

Conclusions

- Nasal and oral povidone iodine did not significantly reduce the burden of SARS-CoV-2 RNA
- Further studies needed to investigate different dosing intervals and effect on culturable SARS-CoV-2

References

- Redmond SN, et al. Infection control and Hospital Epidemiology. 2022
- Prather KA, et al. Reducing transmission of SARS-CoV-2. Science. 2020

Acknowledgements

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