

Efficacy of povidone-iodine to reduce viral load

To the Editor,

Martinez Lamas et al. (2020) provide some preliminary findings on the potential use of povidone-iodine for reducing oropharyngeal viral load of SARS-CoV-2. Chin et al. (2020) have also proposed some efficacy for the antiviral properties of povidone-iodine in another context. Both of these findings offer some promise for implementing povidone-iodine as a tool for prevention. Their findings are also consistent with the use of halogens generally as coronavirus antivirals (Cimolai, 2020a).

The use of RT-PCR as the tool to assess viral load nevertheless has some potential limitations. Although clinical samples are often extracted prior to amplification, a number of inhibitors may be present that may not be removed sufficiently. These inhibitors can be of a variety of chemicals or natural substances and must be controlled for in these assays (Schrader, Schielke, Ellerbroek, & Johne, 2012). While povidone-iodine may be the main ingredient in the specific mouthwash preparation, there are often a number of unlisted ingredients (e.g., alcohol) which can potentially provide both antiseptics and RT-PCR inhibition. Povidone (polyvinylpyrrolidone, a polymer) in itself can inhibit the polymerase chain reaction under varied circumstances (Koonjul, Brandt, Farrant, & Lindsey, 1999). Assessments of viral load with this method therefore require some controls.

As another form of control, however, it would be of relevance to see what the lavage properties of gargling in itself have for reducing viral load in those samples assessed. Such a control could include saline or the carrier vehicle-minus povidone-iodine in the least. Furthermore, it is well-known that although there may be a correlation between RT-PCR values and quantitation of virus, the relative values obtained do not guarantee the absence of live virus which may be responsible for transmission (Cimolai, 2020b; Walsh et al., 2020).

In the haste to find some efficacious prevention and treatment, some may be lulled into the use of such products without these validations. The use of controls as detailed above provides a measure of scientific rigor that will fortify the potential of such preventative products for their efficacy and rightful clinical applications.

KEYWORDS

COVID-19, povidone-iodine, quantitation, respiratory, SARS-CoV-2

CONFLICT OF INTEREST

There are no conflicts of interest.

AUTHOR CONTRIBUTION

Nevio Cimolai: Conceptualization; Formal analysis; Validation.

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