LETTER TO THE EDITOR

Saliva as a potential surrogate for detection of SARS-CoV-2 in the pediatric population and special care patients

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The detection and monitoring of the novel coronavirus allowed profile drawing of the pathogen's behavior, its progression around the world, and the possible emergence of Variants of Interest (VOI) (Callaway 2022). Among the laboratory methods commonly used for the diagnosis of SARS-CoV-2 is the nasopharyngeal swab RT-PCR, considered the gold standard method (Pondaven-Letourmy et al. 2020, Butler-Laporte et al. 2021). Despite its superiority over serological rapid tests, no test is entirely reliable and false-negative results are possible, especially concerning the Omicron variant (B.1.1.529) (Pondaven-Letourmy et al. 2020, Lin et al. 2022). Some studies have postulated saliva collection as an alternative for virus presence analysis due to its high load on this biofluid and its expression in oral tissues (Butler-Laporte et al. 2021). Thus, this method can be useful for clinical application and with possible extension to underage children and special care patients.

Interestingly, the rate of concordance among nasopharyngeal swabs RT-PCR and saliva tests are similar, the latter showing sensitivity and specificity greater than 90% (Butler-Laporte et al. 2021). In a pioneer study, Xu et al. (2020) demonstrated that the viral load in the salivary fluid is approximately 90%, representing a potential vehicle for SARS-CoV-2 transmission. Other authors also mention the high expression of salivary IgA and IgG antibodies as a form of ensuring the validity of COVID-19 diagnosis (Costantini et al. 2021).

Furthermore, saliva collection is a non-invasive technique with no special training required (Butler-Laporte et al. 2021). Alongside, nasopharyngeal swab RT-PCR may be an unpleasant experience in more sensitive patients, possibly discouraging them from undergoing the test (Pondaven-Letourmy et al. 2020). Furthermore, newborns, children with uncooperative behavior, as well as patients with special needs could be a target public to RT-PCR saliva, ensuring them a pleasant and trauma-free experience.

This non-invasive approach may contribute to adequate tracking of COVID-19 cases among children and, consequently, provide the basis for convincing parents to adhere to vaccination campaigns in this public (Butler-Laporte et al. 2021, Pettoello-Mantovani et al. 2022). Despite the relatively low risk of manifesting severe forms of the disease (Gaebler et al. 2021), the potential risk of infection and sequels should not be ignored with the loosening of pandemic control measures, and the possibility of development of new variants remains a reality (Callaway 2022).

It is important to observe that some children and special care patients still exhibit comorbidities or syndromic diseases (Byrd et al. 2015). For instance, in individuals with hematologic disorders,

including children and other patients, nasopharyngeal swab RT-PCR often causes bleeding. To prevent this situation, the salivary test has served as an accurate and reliable diagnostic tool to detect false negative SARS-CoV-2 tests (Lopes et al. 2021). Therefore, these groups require priority health care and periodic monitoring, especially with the decline of antibodies against SARS-CoV-2 observed over time (Gaebler et al. 2021). A wide variety of oral manifestations has been reported in children, including cheilitis, dry mouth, and tongue swelling. In more serious cases, COVID-19-related Multisystem Inflammatory Syndrome can also be diagnosed (Halepas et al. 2021). Collectively, these findings may play an important role in the diagnosis and management of the disease.

Finally, salivary RT-PCR has the potential to consolidate itself as a key test for the diagnosis of COVID-19, and assist in monitoring the circulation of the virus in vulnerable groups, particularly at the current stage of the pandemic, with the lifting of control measures and "social living" in the "new normal".

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