Acute parotitis: a possible precocious clinical manifestation of SARS-CoV-2 infection?

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Sir,

Manifestations of coronavirus disease (COVID-19), resulting from primary infection by Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2), include fever, cough, dyspnoea, myalgia, headache, and diarrhea. Rhinorrhoea and sore throat are also reported,\(^1\) as olfactory impairment.

Transmission occurs through mucosal inoculation of infected droplets or direct contact from symptomatic or asymptomatic carriers.

Diagnosis is performed by reverse transcriptase Real-Time PCR (RT-PCR) of nasopharyngeal or oropharyngeal swabs (NPS). However, SARS-CoV-2 can be found at high viral loads in saliva specimens.\(^2\) Given the high diagnostic concordance between nasopharyngeal and saliva specimens in detecting respiratory viruses, including coronaviruses, and considering that coronaviruses can be found in saliva specimens but not in nasopharyngeal aspirates,\(^3\) To⁴ tested SARS-CoV-2 in saliva samples from 12 patients: all but one were positive with a decreasing viral load trend.

A SARS-CoV-2 tropism for the epithelial salivary ducts cells was described in rhesus macaques.\(^5\) This suggests the possibility of SARS-CoV-2 salivary infection, although its detection in saliva may be partially related to the contribution, in this \textit{milieu}, of secretions from the nasopharynx or the lower airways.\(^4\)

We describe a SARS-CoV-2 positive patient whose first clinical manifestation was an acute, non-suppurative parotitis.

In an Italian familiar cluster of infection (mother and 1 brother with asymptomatic COVID-19, another brother with mild symptoms, all of them with a positive RT-PCR NPS) under quarantine in Switzerland from March 9, a previously healthy 26-year old male developed a left painful parotid swelling on the same day. Fever (max 38°C) and myalgia occurred (March 10-11). The patient slowly improved with complete recovery (March 13). Hyposmia and ageusia were self-reported (March 16).
Clinically, a discrete swelling of the left parotid gland without purulent discharge after parotid massage was found. Blood assays revealed a mild increase in reactive C-protein (8.9 mg/L), while the white blood cell count and formula were normal. Cytomegalovirus and paramyxovirus antibodies were negative, except for IgG-paramyxovirus (300 kAU/L). Ultrasonography showed an enlarged and diffuse hypoechoic parotid gland structure, with increased vascularization at Color-Doppler; no salivary duct enlargement or stones were identified. Traditional SARS-CoV-2 RT-PCR testing on NPS resulted negative, while a rapid immunochromatographic test (PRIMA Lab SA, Balerna, Switzerland) was weakly positive for SARS-CoV-2 IgG, and negative for IgM (April 1).

Although we could not document SARS-CoV-2 RNA in the saliva, we believe that acute, non-suppurative parotitis should be considered a possible manifestation of the COVID-19 disease spectrum.
References


