

# SARS-CoV-2 infection does not seem to worsen the clinical course of patients with oral autoimmune disease

Dear editor,

People with systemic autoimmune diseases (AD) have been considered at-risk for the Novel Coronavirus disease (COVID-19), but the body of scientific evidence supporting this potential enhanced risk is small (Brito-Zerón et al., 2021). Various AD may involve oral epithelium, above all pemphigus vulgaris (PV), mucous membrane pemphigoid (MMP), and lichen planus (LP) (Mustafa et al., 2015). To date, there is no study that has evaluated the impact of COVID-19 on oral AD.

We decided to report our experience of regularly followed up patients with oral LP, MMP, and PV, recovered from COVID-19, to detail any possible changes in oral manifestation in a period of 6 months after the recovery, and comparing those data with patients with oral AD, who did not experience COVID-19.

Since December 2020 to May 2021, we prospectively collected data in a cohort of Caucasian patients visited in our oral medicine section, with a previously confirmed histopathological and clinical diagnosis of OLP, MMP, or PV. The diagnosis of COVID-19 was based on typical clinical findings and positive real-time polymerase chain reaction (PCR) for SARS-CoV-2 or lung involvement compatible with COVID-19 on chest computed tomography (CT) scan, as suggested by World Health Organization guidelines (World Health Organization, 2020). All patients had a confirmed,

mild-to-moderate COVID-19. Data about gender, age, smoking status, oral symptoms reported before and after COVID-19, worsening or stability of the oral condition compared to the last evaluation before COVID-19, type of medications used for the primary oral conditions, and type of recovery during COVID-19 (home care of need to be hospitalized) were detailed. Worsening has to be described as an increase in the severity of a disease or signs of the primary oral disease.

During the observational period, 647 patients were visited (Table 1). Female patients seemed to be more susceptible to COVID-19 ( $p = .000$ ), as well as smokers or those with a previous diagnosis of PV, irrespectively to the pharmacological status, but without statistical differences. We were not able to detect any differences in oral manifestation, compared to the last visit before February 2020, between the 2 groups.

According to recent publication, patients diagnosed with systemic autoimmune diseases do not seem to carry an increased risk of COVID-19 as compared to the general population (Emmi et al., 2020). Moreover, even if it has been speculated that SARS-CoV-2 infection could activate lymphocytes and inflammatory response, preliminary studies suggested that the risk of developing severe forms of COVID-19 in patients with AD, treated with immunomodulators or biologics, might not increase (Li et al., 2021).

**TABLE 1** Reported differences and statistical differences between patients with oral LP, MMP, and PV, who developed and recovered from COVID-19, (Group 1), and patients with oral autoimmune diseases who did not experience COVID-19 (Group 2)

	Group 1	Group 2	<i>p</i>
	N° 190	N° 457	
Age (SD)	66.9 (13.1)	68.1 (10.9)	.25 <sup>#</sup>
Gender Female (%)	160 (84.2)	288 (63)	.000*
Positive smoking status (%)	20 (10.5)	28 (6.1)	.06*
OLP cases (%)	130 (68.4)	380 (83.2)	.231*
MMP cases (%)	10 (5.3)	39 (8.5)	.103*
PV cases (%)	50 (26.3)	38 (8.3)	.077*
Presence of ageusia and anosmia during COVID-19 (%)	168 (88.4)	-	-
Hospital recovery during covid (%)	80 (42.1)	-	-
Worsening of oral manifestation (%) in the follow-up period	20 (10.5)	59 (12.9)	.241*

Abbreviation: SD, standard deviation.

<sup>#</sup>t-test.

\*Fisher's exact test.

To the best of our knowledge, this is the first report describing the evolution of the oral manifestation in patients with AD after COVID-19, and our data show that mild-to-moderate COVID-19 was not associated with worsening of OLP, PV, and MMP. Further analysis should be however performed to establish the real association with COVID-19 and oral AD.

#### KEYWORDS

autoimmune diseases, COVID-19, oral, outcome

#### ACKNOWLEDGEMENTS

None.

#### CONFLICT OF INTEREST

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

#### AUTHOR CONTRIBUTIONS

**Paolo Giacomo Arduino:** Conceptualization; Data curation; Formal analysis; Supervision; Writing-review & editing. **Roberto Broccoletti:** Methodology; Writing-original draft. **Alessio Gambino:** Formal analysis; Writing-review & editing.

#### PEER REVIEW

The peer review history for this article is available at <https://publons.com/publon/10.1111/odi.13990>.

#### DATA AVAILABILITY STATEMENT

Not applicable.

Paolo G. Arduino 

Alessio Gambino

Roberto Broccoletti

Department of Surgical Sciences, Oral Medicine Section, CIR-Dental School, University of Turin, Turin, Italy

#### Correspondence

Paolo G. Arduino, Department of Surgical Sciences, CIR Dental School, University of Turin, Via Nizza 230, 10126 Turin, Italy.

Email: [paologiacomo.arduino@unito.it](mailto:paologiacomo.arduino@unito.it)

#### ORCID

Paolo G. Arduino  <https://orcid.org/0000-0002-8798-7834>

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**How to cite this article:** Arduino, P. G., Gambino, A., & Broccoletti, R. (2021). SARS-CoV-2 infection does not seem to worsen the clinical course of patients with oral autoimmune disease. *Oral Diseases*, 00, 1–2. <https://doi.org/10.1111/odi.13990>