



alveolar capillaries,<sup>2</sup> endothelial cells of kidney glomeruli,<sup>3</sup> brain blood vessels,<sup>4</sup> colonic mucosa<sup>5</sup> and skin.<sup>6</sup> Our immunohistochemical study represents a straightforward means of linking SARS-CoV-2 infection and endothelium.

The presence of the virus in eccrine glands suggests sweat as a source of contagion, but this should be interpreted with caution. Given the similarities of SARS-CoV and SARS-CoV-2, it is worth mentioning that in a 2004 study of four autopsied patients with SARS, Ding *et al.*<sup>7</sup> found SARS-CoV nucleoprotein and RNA by immunohistochemistry and *in situ* hybridization, respectively, in a wide array of tissues, including sweat glands, intestine and kidney. They speculated accordingly the possibility of virus transmission through faeces, urine and sweat. A number of viruses, like hepatitis C virus, are known to replicate in sweat glands and keratinocytes; this could be investigated in sweat obtained by pilocarpine stimulation.<sup>8</sup>

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## Global Hidradenitis Suppurativa COVID-19 Registry: a registry to inform data-driven management practices

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DEAR EDITOR, The management of hidradenitis suppurativa (HS), a chronic inflammatory skin disease, deserves special consideration in the context of the Coronavirus 2019 (COVID-19) pandemic. A new Global Hidradenitis Suppurativa COVID-19 Registry has been developed to capture data on the risks, clinical course and outcomes of COVID-19 in patients with HS. Caused by the virus SARS-CoV-2, COVID-19 is an easily transmissible disease, which, in its most severe form, is characterized by respiratory failure and multiple organ dysfunction triggered by a cytokine storm response. It predominates in older adults and those with significant comorbidities.<sup>1</sup>

Although HS is not considered a specific risk factor for COVID-19 illness, individuals with HS are potentially at increased risk for severe COVID-19 and poor outcomes, for several reasons. Firstly, although HS typically affects younger individuals, it is associated with diabetes and obesity, comorbidities that may predispose to more severe COVID-19 infections.<sup>2</sup> Secondly, immunomodulating biologic agents such as tumour necrosis factor inhibitors, which are associated with increased risk of infection, comprise the mainstay of therapy for moderate-to-severe HS and may put patients at increased risk of severe COVID-19 illness.<sup>3</sup> Thirdly, HS disproportionately affects people of racial and ethnic minorities, and patients with HS experience significant barriers to healthcare access even under usual circumstances.<sup>4</sup> These data, in conjunction with limited healthcare resources during the COVID-19 pandemic and recent data demonstrating racial and ethnic disparities in COVID-19 transmission, management and outcomes, suggest that disparities in care may disproportionately affect individuals with HS.<sup>5–7</sup>

Given the time required to develop effective COVID-19 vaccination and treatment strategies, HS management in the context of COVID-19 will need to be grappled with for the foreseeable future. As evidence is lacking to guide management recommendations, there is an urgent need for observational data to understand better the risks, clinical course and outcomes of COVID-19 in patients with HS. The Global Hidradenitis Suppurativa COVID-19 Registry was launched by an international team of investigators and patient partners from the USA, Canada, UK, Australia, Italy and Denmark in collaboration with the US, Canadian and Asia-Pacific hidradenitis suppurativa foundations, Hope for HS and Hidradenitis Suppurativa Warriors. This international paediatric and adult registry aims to identify predictors of COVID-19 outcomes in order to improve the care of patients with HS. Wide participation and case reporting by healthcare providers and patients with HS with suspected or confirmed





COVID-19 infection are vital to the success of this endeavour. Cases can be reported at <https://hscovid.ucsf.edu>.

To inform HS management and maximally impact patient care in real time, aggregate summary data will be regularly disseminated via the registry website and distributed through the HS foundations, patient support groups and social media platforms. Although initial data from small numbers of reported cases must be interpreted cautiously, preliminary characterizations will provide important insights about predictors of outcomes and guide future analyses. Over time, the registry data will be analysed for differences in disease severity and outcomes by sociodemographic features, and HS and COVID-19 characteristics and treatments. The potential benefit of immunomodulators in reducing the COVID-19-triggered cytokine storm will also be examined.

To facilitate collaboration and comparative analyses across dermatological diseases, the registry items have been harmonized with other international dermatology COVID-19 registries, and also account for the possibility of duplicate entry across registries.

The limitations of this registry include selection bias towards more severe cases, as these individuals may be more likely to seek and receive care, particularly in the initial stages of the pandemic. Exposure misclassification due to limited testing may limit the number of identified COVID-19 infections. Cases may also be missed if dermatologists, who typically care for patients with HS, are not informed of a patient's COVID-19 diagnosis, if patients with mild HS have not been diagnosed, or if deceased patients are not reported. The data are also subject to recall bias as they are collected retrospectively, and data entry may be slowed due to provider time constraints during the pandemic. Lastly, web-based registry studies tend to favour well-resourced nations and limit reporting from marginalized groups. Case entry by both healthcare providers and affected patients or their caregivers is one way to mitigate selection bias, limit reporting disparities, and maximize timely reporting. Direct outreach to HS specialists and information dissemination through varied international provider and patient outlets may further encourage diverse representation and strengthen generalizability.

Information from this database will provide timely and responsive real-world data where gaps in evidence exist, and, over the longer term, offer improved understanding of predictors of severe outcomes in the HS population and guide evidence-based management recommendations.

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