

COVID-19 (Coronavirus)

Position statement on the COVID 19-related management of pernio/chilblains

*This guidance is current as of **26 August 2020** and is subject to change. College guidance can be adapted to suit individual circumstances and accordingly, some variation in practice is acceptable. Fellows are advised to always refer to government recommendations.*

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Summary

- Pernio is a common dermatological presentation during colder months.
- Studies in areas with high rates of COVID-19 infection suggest a link between this infection and pernio/chilblain-like lesions, particularly if they are widespread or atypical.
- The presence of pernio should prompt a thorough history to be taken about other COVID-19 symptoms and potential COVID-19 contacts.
- The presence of typical pernio without any history of potential COVID-19 symptoms or contact does not necessitate COVID-19 investigation.

Pernio and chilblain-like lesions have been reported as a feature of COVID-19 (SARS-CoV2 infection) although the degree of association is uncertain. There have been reports of significant increases of pernio and chilblain-like presentations particularly in areas of high rates of COVID-19 infection and the presentations tend to occur in younger patients. In those with or more likely to have had COVID-19 it appears later in the course and in those with less severe disease¹. Available studies have had significant design issues with biases in patient selection and usually only a small proportion of their patients had nucleic acid testing. A summary of these noted, when performed, reverse transcriptase polymerase chain reaction testing was positive in approximately 15% of cases². It is possible these low rates are due to the late presentation of pernio/chilblain-like lesions or an extremely low viral load associated with this presentation.

A credible alternative explanation to the apparent association of COVID-19 with pernio/chilblain-like lesions is it is due to the combination of colder weather and a more sedentary lifestyle associated with public health control measures of the pandemic^{6,7}.

Even when antibody assessment is performed with validated tests, the majority of patients with pernio test negative for COVID-19³. However, there is a report of a series of patients who tested negative to PCR along with negative antibody tests who showed detectable COVID-19 virus in endothelium using Immunofluorescence on a skin biopsy specimen⁴.

In an attempt to explain a possible association but without the correlation with positive tests, it has been proposed that either the viral load may not enough to induce antibody formation or the host develops an early, strong interferon type I response, inhibiting early viral replication and preventing the development of detectable IgM and IgG⁵.

Therefore, with patients presenting with pernio in the setting of COVID-19 outbreak, there is a dilemma for clinicians. With a possible association, it is prudent to enquire about the possibility of COVID-19 infection. This would involve a detailed assessment of other pertinent symptoms in the individual as well as close contacts including fevers, dry cough, lethargy and aches and pains. An

assessment of possible COVID-19 contact in the preceding weeks to even months ought to be sought.

Without any other clinical suspicion for COVID-19, it is not necessary to arrange PCR testing for COVID-19 with just a pernio presentation. It would be reasonable with more atypical and widespread presentations that testing be considered even though PCR testing would appear likely to be negative even in those with known COVID association.

References:

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