

COVID-19 Ears, Nose, Fingers & Toes

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Capsule Summary:

1. Symptomatic pernio-like acral skin changes have been observed in COVID-19 and are more specific to the disease than signs of viral exanthem.
2. The pernio-like skin changes in COVID-19 are associated with younger patients and a benign prognosis.
3. These skin manifestations tend to be self-limited and on average resolve in 1-2 weeks.

There is **growing evidence that COVID-19 can present with skin changes**. The incidence of rashes in patients with COVID-19 has been estimated from 0.2% to 20.4% in various cohorts.

COVID-19 manifestations of the skin are highly variable and include eruptions that are petechial, erythematous, urticarial, vesicular, and annular. They can be divided between 2 major groups: (1) clinical features similar to viral exanthems, an immune response to viral nucleotides; and (2) cutaneous eruptions secondary to systemic consequences caused by COVID-19, especially vasculitis and thrombotic vasculopathy.

The cutaneous findings of COVID-19 that are similar to other viral exanthems, such as morbilliform eruption, are nonspecific as they can be found in the context of numerous pathogens. By contrast, those changes secondary to the systemic consequences of COVID-19 can be far more specific. **Skin changes consistent with vasculitis and thrombotic vasculopathy, without another explanation, may suggest COVID-19 infection and warrant confirmatory testing.**

The cutaneous eruptions secondary to the systemic consequences of COVID-19 present with **erythematous to violaceous papules over acral surfaces** similar to pernio. The lesions are often **painful and itchy, and like pernio, are made worse following exposure to cold**. The eruption has been reported to occur before (13%), at the same time (15%), or after (54%) other COVID-19 symptoms (e.g. cough, headache, sore throat and fever). Blistering, crusting and ulceration can occur in severe cases. Interestingly, **these skin changes are associated with younger patients and a more benign prognosis**.

Further workup beyond testing for COVID-19 by PCR or IgM/IgG antibodies is generally unnecessary. However, in the case of severe pernio or associated livedoid changes, the

following studies may be warranted: CBC with differential, ANA, RF, cold agglutinins, cryoglobulins, C3, C4, CH50, CRP, ESR, D-dimer, fibrinogen, antiphospholipid antibodies.

Pernio-like skin changes are generally **self-limited and on average resolve in 1-2 weeks**. Nevertheless, as some of these patients might be infectious, isolation should be considered. Possible treatment recommendations include **cold avoidance, topical steroids, aspirin, calcium-channel blockers and pentoxifylline**. It should be recalled that **aspirin must be used with caution in the pediatric population** given the risk of Reye's syndrome.

There is still much to learn about COVID-19, and in particular, the cutaneous manifestations of the disease. To that end, the American Academy of Dermatology has established a Dermatology COVID-19 Registry so that dermatologists, physicians and other healthcare providers worldwide can report findings (<https://redcap.partners.org/redcap/surveys/index.php?s=YJWAJCX7TY>).

Dr. Kirsch is the founder of Kirsch Dermatology in Naples, Florida. As of July 1, 2020, he will assume the role of subsection Chief of Dermatology for the Naples Community Hospital. www.kirschderm.com

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Confluent erythematous-violaceous diffuse plaques sparing some toes and the dorsal feet. (Photo courtesy: Fernandez-Nieto, D., et al. "Characterization of acute acro-ischemic lesions in non-hospitalized patients: a case series of 132 patients during the COVID-19 outbreak." *Journal of the American Academy of Dermatology* (2020).)