

# COVID-19 (Coronavirus)



THE AUSTRALASIAN COLLEGE  
OF DERMATOLOGISTS

## Dermatological manifestations of COVID-19

*This guidance is current as of 6 May 2020 and is subject to change. College guidance can be followed to suit individual circumstances and accordingly, some variation in practice is acceptable. Fellows are advised to always refer to government recommendations.*

Visit <https://www.dermcoll.edu.au/covid19updates/> for the latest version of this document.

### **As the cases of COVID-19 continue to grow worldwide so does our understanding of the different presenting signs and symptoms.**

In an Italian cohort of 88 patients with COVID-19, 20.4% developed cutaneous manifestations, half of which were at initial presentation.<sup>1</sup> These included urticaria, Varicella-like exanthem, and non-specific viral exanthems such as erythematous rashes, particularly affecting the trunk. Pruritus was not a dominant feature, with most patients being asymptomatic. The cutaneous manifestations did not correlate with disease severity. Urticaria has been reported to occur as the presenting symptom.<sup>2,3</sup> Varicella-like exanthem are reported as a COVID-19 specific skin finding by an Italian cohort.<sup>4</sup> These lesions typically appear 3 days after systemic symptoms and heal without scarring by day 8. There is no pruritus. The lesions are localised to the trunk. Isolated herpetic lesions have also been reported.<sup>5</sup> One patient has been reported to present with symmetrical drug-related intertriginous and flexural exanthema (SDRIFE)-like eruption.<sup>6</sup>

More recently there have been reports of additional cutaneous signs of microvascular occlusion, as seen in other organ systems.<sup>7-13</sup> In a report of three cases of confirmed COVID-19 in Italy, patients presented with fever, non-specific exanthem, and respiratory symptoms;<sup>14</sup> histology demonstrated early microthrombi or vasculitis. Antiphospholipid syndrome has been associated with COVID-19.<sup>15</sup> One patient in Thailand was mistakenly diagnosed as having Dengue fever due to the combination of petechiae and thrombocytopenia.<sup>7</sup> The diagnosis of COVID-19 was made after the development of respiratory symptoms. Erythema multiforme minor has been reported in a young patient with clinically suspected COVID-19, but not confirmed.<sup>16</sup> Various acrosyndromes, as well as chilblains or pernio-like lesions, have been highlighted within medical discussion groups and the literature.<sup>8,9,17,18</sup> The development of painful purpuric lesions on the distal extremities raises suspicion for COVID-19.

An observational study in France reported the following cutaneous signs in 14 patients with COVID-19: vascular lesions (50%), exanthem (29%), Varicella-like exanthem (14%), and cold urticaria (0.1%).<sup>19</sup> The vascular lesions include violaceous macules, non-necrotic purpura, chilblains, Raynaud phenomenon, and eruptive cherry angiomas. They discuss the role of ACE2 as a cellular receptor for COVID-19 and suggest these vascular changes may be due to angiotensin II accumulation.

An observation of increased frequency of male pattern hair loss in patients with COVID-19 suggest that androgen expression may be associated with disease severity.<sup>20</sup>

In the paediatric setting there are growing reports of serious cutaneous reactions in association with COVID-19. These children have had features that overlap with the toxic shock syndrome and Kawasaki disease.<sup>21,22</sup> An atypical presentation of these syndromes should increase index of suspicion for COVID-19 with prompt discussion with a Paediatric Infectious Disease unit.

The American Academy of Dermatology (AAD) (<https://www.aad.org/member/practice/coronavirus/registry>) has established a database for the skin signs of COVID-19. Any health care worker can add to this registry. This is an evolving topic, with the underlying causes and prognostic importance being debated.<sup>23</sup>

## 5 Clinical Patterns of Cutaneous Involvement<sup>24</sup>

1. Maculopapular eruptions (47%)
2. Acral areas of erythema with vesicles or pustules (Pseudo-chilblain) (19%)
  - a. appears late in the disease course
  - b. associated with less severe disease
3. Urticarial lesions (19%)
4. Other vesicular eruptions (9%)
  - a. appears early in disease course (15% as presenting symptom)
5. Livedo or necrosis (6%)

## Other published Dermatological signs of COVID-19

- Petechiae
- Burning sensation on skin (generalised)
- Erythema multiforme
- Eruptive cherry angiomas
- Kawasaki disease
- Toxic shock syndromes
- Antiphospholipid syndrome
- Symmetrical Drug-Related Intertriginous and Flexural Exanthema- like eruption

Many of these dermatological presentations are non-specific and can have infectious triggers or associations. As these signs may be present without fever or respiratory symptoms, a precautionary approach is advisable and when the prevalence of SARS-CoV-2 is increased in the community, a high suspicion for possible COVID-19 is recommended. This begs the question whether COVID-19 screening should be considered in this cohort of patients.

Adverse drug reactions may also be more common, due to activation of the Danger Signal by SARS-CoV-2, and the multiple pharmacotherapy of severe COVID-19.

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