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To the Editors

Cutaneous manifestations among COVID-19 patients: Tip of an iceberg?

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COVID-19 (SARS-CoV-2) is a pandemic declared by the World Health Organisation (WHO) on 11th March 2020. The case definition is updated regularly following several studies reviewing clinical characteristics. The clinical spectrum has just started unfolding itself for this novel virus. It started with respiratory symptoms (fever and at least one sign/symptom of cough, shortness of breath) to which was subsequently added diarrhoea, rash, anosmia, ageusia, mental confusion, stroke, seizures, acute kidney damage, liver damage, COVID toes, multisystem inflammatory syndrome in children (MIS-C) and many more¹.

We want to highlight the cutaneous manifestations among healthy young patients (mostly children and adolescents) as sole manifestations of Covid-19 as well as part of multisystem involvement. These manifestations include acute self-healing pernio (chilblain)-like acro-ischaemic lesions, in the absence of cold exposure, affecting the feet and hands, exanthematous (morbilliform) rash predominantly involving the trunk, livedo-like/purpuric/necrotic vascular lesions, urticaria, vesicular (varicella-like) eruptions, dengue-like rashes and erythema multiforme-like lesions. They were initially reported from Italy among 20.4% of 148 COVID-19 positive patients² and from Spain among 18% of children (4 of 22) without history of other viral infections, intake of drugs or recent immunization³. Primarily, these cutaneous manifestations appear to be a hyper-inflammatory response to COVID virus. Histologic and immunohistochemistry studies of skin biopsies revealed a pattern of altered coagulation as complement-mediated thrombotic vasculopathy with microvascular injury⁴. In addition, there was co-localization of COVID-19 spike glycoproteins with C4d and C5b-9 in the cutaneous microvasculature⁵. Most reported cases have negative COVID-19 RT PCR, and the observed skin lesions could represent late manifestations of infection, or cutaneous reactions to the numerous treatments used to treat COVID-19. At present there are no treatment guidelines for these skin lesions.

Whether any of these skin manifestations described are a clue towards Covid-19 infection among the paediatric population remains a challenge. In areas where laboratory facilities are scarce, can these

findings predict any specific course/outcome of COVID-19 which could lead to early intervention and development of specific treatment guidelines? Larger studies with biopsies and tests for COVID-19 virus infection are needed. We need dedicated COVID registry in all affected countries (e.g. American Academy of Dermatology available online at www.aad.org/covidregistry), in which healthcare provider can report COVID-19 symptoms. This will help frame and test new hypotheses about COVID-19. We also suggest testing for SARS-CoV-2 by RT-PCR among patients presenting with new-onset skin lesions that have no other clear cause. Those with lesions for more than 4 weeks, immunoglobulin M (IgM) and immunoglobulin G (IgG) antibody testing may be done following local guidelines⁶. Better understanding of cutaneous manifestations, their association with co-morbidities and treatment is the only way to handle this rapidly evolving pandemic.

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