Acute acral cutaneous manifestations during the COVID-19 pandemic: a single-centre experience

Editor
Coronavirus disease 2019 (COVID-19), caused by severe acute respiratory syndrome-related coronavirus 2 (SARS-CoV-2), was first reported in China on December 2019. Almost 5 months into the pandemic, little is still known about cutaneous manifestations in COVID-19. In fact, the prevalence of cutaneous signs varies greatly in the literature, ranging from 0.2% to 20.4%.1,2

Given their potential association with COVID-19, acral lesions have received special attention worldwide, both in the medical literature and the media. Our aim is to share our

Figure 1  Acral lesions in patients with negative nasopharyngeal PCR and serology for COVID-19: (a) Petechial and purpuric macules on the dorsal aspect of the toes in a 19-year-old male. (b) Erythema and oedema on multiple toes in a 19-year-old male. (c, d) Purpuric macules with haemorrhagic vesicle on the fingers of a 41-year-old male. (e) Erythema and oedema on multiple toes in a 19-year-old male.

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experience regarding acral manifestations during this pandemic.

We report a case series including all patients consulting at our tertiary care dermatology department for suspected COVID-associated cutaneous lesions during April 2020, in particular, those with acral lesions. All patients were tested for SARS-CoV-2 through nasopharyngeal exudate polymerase chain reaction (PCR) and serum serology, as well as for other exanthematic viruses [parvovirus B-19, measles, rubella and human herpesvirus-6 (HHV6)].

Twenty-six patients were included, 14 (54%) men and 12 (46%) women. The mean age was 28 years, noting 8 (30.7%) were under the age of 14. Most cases were urgent outpatient consultations. The predominant manifestation was acral rash (19/26; 73.08%). Less common eruptions were maculopapular (4/26; 15.38%), urticariform (2/26; 7.69%) and chickenpox-like rashes (1/26; 3.85%).

Regarding the 19 patients with acral manifestations, they presented perniosis-like lesions with variable degrees of erythema, oedema and petechiae or purpuric macules. Thirteen (68.42%) referred pruritus and 9 (47.36%) pain. None had respiratory symptoms, and only 2 (10.5%) reported having fever previously. We found that nasopharyngeal PCR was negative in all cases at onset of lesions. Most patients tested negative for SARS-CoV-2 serology and presented with predominantly petechial or purpuric lesions (Fig. 1). Only 3 (15.78%) cases had positive serology: two with IgG and one with both IgG and IgA, suggesting recent infection. The former two presented purpuric lesions, whereas the latter had erythematous lesions on the fingers, elbows and knees (Fig. 2). Two patients had been previously confirmed to have COVID through PCR, approximately 15 days earlier. These included 1 patient with acral purpuric lesions and positive IgG, and the patient with erythematous lesions and both IgG and IgA. Two patients with purpuric lesions tested positive only for other viruses: HHV-6 nasopharyngeal PCR and parvovirus B-19 serum PCR, of unknown significance.

Out of seven patients with non-acral manifestations, 4 (57.14%) and 5 (71.42%) reported fever and respiratory symptoms, respectively, prior to cutaneous lesions. Nasopharyngeal PCR was negative in all cases at the moment of consultation. We identified two cases with positive IgG who presented with maculopapular and chickenpox-like eruptions.

The ‘COVID-piel’ study reported five rashes associated with COVID-19, maculopapules and acral pseudo-chilblain being the most frequent. Recalti et al. reported two distinct acral rashes in association with COVID-19: petechial acral eruption and digitate papulosquamous rash. These findings resemble those in our series. The timing of rash onset is strikingly variable, suggesting that skin findings may present at any stage of the infection.

Given that the cases we could relate to SARS-CoV-2 only had
positive serology, perhaps acral lesions are a late COVID manifestation in patients with mild or no systemic symptoms.

Although we observed an increased number of consultations for acral lesions when compared with previous years, and coinciding with the peak incidence of COVID-19 in our city, we could not demonstrate a relationship with SARS-CoV-2 in most cases. It is worth noting that our only patient with positive IgA and previous PCR presented different cutaneous manifestations, with erythematousquamous lesions. Perhaps this distinction could be useful when evaluating acral manifestations in the COVID-19 era. Despite our efforts, there are still many unknowns regarding COVID-related dermatological manifestations.

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Conflicts of interest
Dr. García-Legaz Martínez, Dr. Martínez-Doménech, Dr. Magdaleno-Tapia, Dr. Valenzuela-Onate, Dr. Partarrieu-Meijas, Dr. Lorca-Spröhnlle, Dr. Casanova-Esquembre, Dr. Pérez-Ferriols and Dr. Alegre-de Miquel have nothing to disclose.

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LETTERS TO THE EDITOR

Autosomal recessive epidermolysis bullosa simplex due to EXPH5 mutation: neonatal diagnosis of the first Italian case and literature review

Editor,
Inherited epidermolysis bullosa (EB) is a skin fragility disorder typified by blister formation following minor trauma. Four major EB types are distinguished based on the level of cleavage within the skin. Among these, EB simplex (EBS) is characterized by blister formation within the basal epidermis. EBS is the most heterogeneous EB type with mutations in seven different genes and a spectrum of clinical manifestations, ranging from widespread life-threatening skin and mucosal involvement to mild localized disease forms.1,2

We report an Italian newborn in whom the diagnosis of recessive EBS due to a homozygous mutation in EXPH5 gene was promptly established by next-generation sequencing (NGS).

A female full-term newborn with suspected EB was referred at birth to our hospital. The consanguineous parents and three older siblings were healthy. At physical examination, a few erythematous macules with a central vesicle and grouped vesicles as well as scattered erosions were observed on the trunk and extremities (Fig. 1a,b). Mucosae and nails were not affected. Following informed consent, skin biopsies for immunofluorescence antigen mapping (IFM) and electron microscopy (EM) and a blood sample for molecular testing were taken. IFM showed normal expression of dermal–epidermal junction proteins and basal keratinocyte vacuolization (Fig. 1e). EM revealed tonofilament clumping in numerous basal keratinocytes, which was initially considered diagnostic for dominant severe EBS (Fig. 1f). However, molecular testing using a NGS panel for genodermatoses (Nextera Rapid Capture Custom Enrichment Kit; Illumina, San Diego, CA, USA) identified the homozygous frameshift mutation c.5786delC, p.Pro1929LeufsTer8 (rs749309384) in exon 6 of EXPH5 gene in the proband. Sanger sequencing confirmed the mutation at the homozygous and heterozygous status in the patient and her healthy parents, respectively.

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