patients who had already been treated by their primary health-care providers during confinement because general practitioners made an effort to avoid hospital referral of non-urgent conditions due to the public health situation. In addition, the number of permethrin applications in confined patients was significantly superior, and therefore, this group ended requiring oral treatment with ivermectin more frequently. Permethrin failure has often been observed in major outbreaks in institutions, due to complications in carrying out decontamination measures or in completing topical treatment, with frequent reinfections among cohabitants. On these occasions, oral treatment with ivermectin is considered as the first choice for controlling infestation.1,4,8,9 In our opinion, during home confinement, minor outbreaks have arisen within each family group, and management difficulties are similar to those previously mentioned for institutional outbreaks, so perhaps the approach should be similar.

The results presented are from a single hospital in Spain, and these results cannot be generalized; however, due to the dramatic evolution of the pandemic, we could suffer again a confinement and this work provides a basis for future researchers to implement and evaluate preventive actions to reduce and recognize early cases of scabies in this context.

Conflict of interest
None declared.

Funding sources
There has been no financial support for this work that could have influenced its outcome.

I. Martínez-Pallás,1,4 B. Aldea-Manrique,1 M. Ramírez-Lluch,1 J. Manuel Vinuesa-Hernando,2 M. Ara-Martín1
1Department of Dermatology, Lozano Blesa Clinical Hospital, 15th San Juan Bosco Ave, Zaragoza, Spain
2Pharmacy Department, Lozano Blesa Clinical Hospital, 15th San Juan Bosco Ave, Zaragoza, Spain
*Correspondence: I. Martínez-Pallás. E-mail: imartinezp@salud.aragon.es

References
1 Informe COVID-19 nº 9. 13 de marzo de 2020. Ministerio de Sanidad; 2020.
2 Wollina U, Karadag AS, Rowland-Payne C, Chiriac A, Lotti T. Cutaneous signs in COVID-19 patients: a review [published online ahead of print, 2020 May 10]. Dermatol Ther 2020; e13549. https://doi.org/10.1111/dth.13549
3 Miceli G, Lacarubba F, Verzi AE, Chosidow O, Schwartz RA. Scabies: advances in noninvasive diagnosis. PLoS Negl Trop Dis 2016; 10: e0004691.
4 Thean LJ, Engelman D, Kaldor J, Steer AC. Scabies: new opportunities for management and population control. Pediatr Infect Dis J 2019; 38: 211–213.
5 Mueller SM, Gysin S, Schweitzer M et al. Implementation and evaluation of an algorithm for the management of scabies outbreaks. BMC Infect Dis 2019; 19: 290.
6 de Beer G, Miller MA, Tremblay L, Monette J. An outbreak of scabies in a long-term care facility: the role of misdiagnosis and the costs associated with control. Infect Control Hosp Epidemiol 2006; 27: 517–518.

Acral skin eruption observed during SARS-CoV-2 pandemic: possible keratolysis exfoliativa with red palms and soles

Editor,

Chilblain-like1–3 and erythema multiforme-like4 lesions represent the most reported and studied acral skin eruptions occurring in the paediatric age during the SARS-CoV-2 pandemic. In the same period, we observed a peculiar acral eruption in paediatric patients. Five children (4 females and 1 male) aged from 1 to 4 years (mean age: 3 years) presented erythema and oedema involving the palmar (5/5 cases) and plantar (3/5) surfaces. The most affected sites were thenar and hypothenar areas, and the fingertips. After some days, an intense superficial desquamation with a centrifugal pattern of expansion occurred (Fig. 1). The symptoms referred were itching (5/5), pain (1/5) and burning sensation (1/5). In 2/5 cases, fever (38–39°C) preceded the acral eruption, while a diffuse maculopapular rash occurred in 2/5

Figure 1 Symmetrical redness of the palms and the fingertips, with multiple round areas of superficial desquamation.

DOI: 10.1111/jdv.16879
patients. The parents referred a history of warm extremities in all the cases. After 3-4 weeks, a complete and spontaneous remission was achieved by all the patients. Dermoscopy revealed a thin peripheral whitish scale collarette, surrounding a pink structureless centre (Fig. 2).

All the patients underwent complete blood tests that turned out to be normal, except for a slight increase of IL-6 titre in 2/5 patients (ranging 6.2-8.2 pg/mL; n.r.: <5.9 pg/mL). Throat cultures for group A beta-haemolytic streptococci (GABHS) were negative in all patients. Nasopharyngeal swab for SARS-CoV-2 RNA RT-PCR, and serum SARS-CoV-2 IgM and IgG (CLIA; YHLO BIOTECH, Shenzhen, China) were negative. Parvovirus B19 DNA and enterovirus RNA serum PCR turned out to be negative. Serology for mycoplasma pneumoniae, Epstein–Barr virus (EBV) and cytomegalovirus (CMV) was unremarkable, except for one (1/5) patient with an acute EBV infection. Interestingly, the EBV infection was asymptomatic, without fever or sore throat. Serological test for SARS-CoV-2 IgM and IgG was repeated after at least three weeks confirming the negative results.

Personal and dermatological past histories were unremarkable. Indeed, family histories were positive for atopy (4/5 patients), chilblain (1/5), dyshidrosis (1/5) and hyperhidrosis (1/5).

SARS-CoV-2 infection was excluded, and due to the occurrence during the lockdown, other diagnosis was considered, such as hand irritant contact dermatitis (ICD)5 and acral frictional dermatosis (AFD)6. ICD may represent a consequence of an intense hands’ hygiene and usually manifests over the dorsum of metacarpophalangeal joints and web spaces, where the irritants and allergens accumulate5. Regarding our patients, two of them (2/5) referred frequent handwashing. However, hands’ dorsum or web spaces were spared and palmar and plantar surfaces represented the only affected sites. AFD is a hyperkeratotic acquired dermatosis typically observed on the bony prominences of the feet and legs6. In our patients, this diagnosis was excluded for the acute onset, the exclusive involvement of palms and soles, and the absence of hyperkeratosis.

Juvenile gloves and socks papular purpuric syndrome (JGPPS) is a self-limiting acral dermatosis characterized by purpuric and erythematous-oedematous plaques, with subsequent petechiae development. JGPPS might be induced by several infectious agents, including CMV, EBV and parvovirus B197. In our patients, this diagnosis was excluded by serological tests, and clinically by the absence of purpuric lesions and the presence of the desquamation. The negative GABHS throat cultures allowed us to exclude post scarlet fever desquamation.

Finally, exfoliative diseases have been considered, in particular keratolyisis exfoliativa (KE). KE is an under-diagnosed palmo-plantar peeling dermatosis, characterized by cyclic and recurrent superficial exfoliation and collarette desquamation, due to cleavage within the stratum corneum. The sites affected are palms, soles and fingers. Subjective symptoms are represented by pruritus, pain and burning sensation8. Skin biopsy was not performed in our cases; however, the clinical presentation and the dermoscopic findings were consistent with superficial peeling. We hypothesized that KE diagnosis is likely. The frequent handwashing and the stress due to the changes in lifestyle in young children might represent the triggering factors in constitutionally predisposed subjects9. The major limitation of our study was the small sample size and the absence of histologic confirmation. The observation of further cases would be needed to support our hypothesis.

Acknowledgement
The patients in this manuscript have given written informed consent to the publication of their case details.

Funding source
None.

Conflict of interest
Dr. Neri has nothing to disclose. Dr. Patrizi has nothing to disclose. Dr. Gabrielli has nothing to disclose. Dr. Virdi has nothing to disclose. Dr. Veronesi has nothing to disclose. Dr. Corsini has nothing to disclose. Dr. Lazzarotto has nothing to disclose. Dr. Lanari has nothing to disclose. Dr. Misciali has nothing to disclose. Dr. Guglielmo has nothing to disclose.

I. Neri,1 A. Patrizi,1,* L. Gabrielli,2 A. Virdi,1 G. Veronesi,1 I. Corsini,3 T. Lazzarotto,2 M. Lanari,3 C. Misciali,1 A. Guglielmo1
1Division of Dermatology, Department of Experimental, Diagnostic and Specialty Medicine, University of Bologna, Bologna, Italy, 2Operative Unit of Microbiology and Virology, Department of Specialized, Experimental, and Diagnostic Medicine, Policlinic of St. Orsola-Malpighi, University of

Figure 2 The dermoscopy showed large collarette of whitish scales attached at the periphery over a pinkish unstructured background. (20 X).
Dear Editor,

Hydroxymethylation studies on cutaneous vascular tumours, such as classic Kaposi sarcoma (CKS) and cutaneous angiosarcoma (CAS), have not been reported yet. We aimed to investigate the expression of 5-methylcytosine (5-mc), 5-hydroxymethylcytosine (5-hmc), TET-2, IDH-2, and isocitrate dehydrogenase 2 (IDH-2) in CKS and CAS.

**Table 1** Clinical data and expression of DNA hydroxymethylation markers in classic Kaposi sarcoma (CKS) and cutaneous angiosarcoma (CAS)

| Parameters                  | CKS n = 19 | CAS n = 12 | P-value |
|-----------------------------|------------|------------|---------|
| **Age (median range) years**| 63 (7–94)  | 72.5 (55–79)| 0.10    |
| **Gender m/f**              | 13/6       | 8/4        | 0.097   |
| **Stage at diagnosis (n)**  | IIA (10), IIA (7), IV (2)† | IA (8), IB (2), IIA (1), IIIC (1)† |        |
| **Disease relapse (n)**     | 6/13 (68.4%) | 4/8 (66.7%) | 1.0     |
| **5-year sarcoma-specific survival (n)** | 1/18 (94.7%) | 5/7 (58.3%) | 0.022   |

**IHC-markers**

| Biomarker | CKS (n) | CAS (n) | P-value (CKS vs. CAS) | CKS tumour vs. control | CAS tumour vs. control |
|-----------|---------|---------|-----------------------|-----------------------|------------------------|
| 5-mc      | 213 (180–282) | 224 (160–272) | 0.54 | 219 (187–247) | 224 (160–272) |
| 5-hmc     | 213 (184–286) | 194 (144–246) | 0.033 | 219 (184–265) | 194 (144–246) |
| TET-2     | 207 (122–281) | 196 (0–240) | 0.24 | 203 (122–242) | 196 (122–240) |
| IDH-2     | 217 (180–286) | 173 (138–218) | 0.0024 | 213 (180–251) | 206 (176–267) |

5-mc, 5-hydroxymethylcytosine; 5-hmc, 5-hydroxymethylcytosine; IDH-2, isocitrate dehydrogenase 2; IHC, immunohistochemistry; TET-2, ten-eleven translocation enzyme 2.

† According to Brambilla et al. (1). AJCC TNM staging for soft tissue sarcoma (2). § Immunohistochemistry. Bold means statistically significant.

**References**

1. Neri I, Verdi A, Corsini I et al. Major cluster of paediatric ‘true’ primary chilblains during the COVID-19 pandemic: a consequence of lifestyle changes due to lockdown. *J Eur Acad Dermatol Venereol* 2020; Online ahead of print. https://doi.org/10.1111/jdv.16751.

2. Piccolo V, Neri I, Filippeschi C et al. Chilblain-like lesions during COVID-19 epidemic: a preliminary study on 63 patients. *J Eur Acad Dermatol Venereol* 2020; 34: e291–e293. https://doi.org/10.1111/jdv.16526

3. Docampo-Simón A, Sánchez-Pujol MJ, Juan-Carpena G et al. Are chilblain-like acral skin lesions really indicative of COVID-19? A prospective study and literature review. *J Eur Acad Dermatol Venereol* 2020; Online ahead of print. doi: 10.1111/jdv.16665.

4. Torrelo A, Andina D, Santonja C et al. Erythema multiforme-like lesions in children and COVID-19. *Pediatr Dermatol* 2020; 37: 442–446.

5. Beiu C, Mihai M, Popa L, Cima L, Popescu MN. Frequent hand washing for COVID-19 prevention can cause hand dermatitis: management tips. *Cureus* 2020; ahead of print. https://doi.org/10.7759/cureus.7506.

6. Bodak N, Chiaverini C, Barbarot S. COVID-19 Lockdown induced acral dermatosis in children. *J Eur Acad Dermatol Venereol* 2020; Online ahead of print. https://doi.org/10.1111/jdv.16797.

7. Hsieh MY, Huang PH. The juvenile variant of papular-purpuric gloves and socks syndrome and its association with viral infections. *Br J Dermatol* 2004; 151: 201–206.