

## Chronic chilblain-like lesions occurring during the Covid pandemic: case series

Sirs,

We describe the clinical, serologic and magnetic resonance imaging features of a novel chronic acrosyndrome, occurring in the Covid-19 pandemic, with unique features separating it from chilblains and acrocyanosis.

We conducted a retrospective analysis of 26 patients presenting with persisting new chilblain-like lesions since the beginning of the pandemic; 88% female, mean age 35.4 years (range 17–60 years), mean BMI 21.0 (underweight 27%). All patients developed diffuse and/or blotchy erythro-cyanotic discoloration (varying shades of dark red, mauve or blue) and swelling of the fingers, with puffiness; affecting both hands in 12, one hand only in 6, both hands and toes in 8, and sparing the thumbs in 69% (Fig. 1). There was asymmetry of involvement in 14 cases. Digital pain was reported in 14 cases (54%) and pruritis in 10 cases (38%). A past history of cold sensitivity or primary Raynaud's affected 54%. Definite evidence of preceding Covid-19 was found in 11.5% and possible infection in 19%. Complement was measured in 16 cases; low in 50%, C3 and C4 in 2 cases, C3 or C4 alone in 6 cases, and both normal in 8 cases. ANA was measured in 23 cases; positive in 6 (23%), negative in 17. No cases were positive for ds-DNA, ENA or anti cardiolipin antibodies. MRI of the hands was performed in 7 cases, showing phalangeal bone marrow oedema (osteitis) in keeping with microgeodic disease in 4, and none showing joint or tendon sheath synovial hypertrophy or enthesal abnormalities. Despite cold avoidance strategies, in 11 cases (42%) persisting symptoms required a trial of treatment with vasodilators (nitrates, calcium channel blockers), NSAIDs, hydroxychloroquine, oral or topical corticosteroid, topical tacrolimus or aspirin. In general, these were all either ineffective, minimally effective or not tolerated. Four of the most severe cases received either sildenafil or tadalafil, with benefit seen in one case treated with each.

All cases resolved either partially or completely in the warmer months, 27% not returning after the first summer season. The remainder relapsed and remitted in successive winter and summer seasons; 50% having persisting chilblain-like signs over 2 years since presentation. The most severe cases had a triad of previous cold sensitivity/Raynaud's (71%), low complement (71%) and underweight BMI (57%).

The features of these cases seem unique, with a phenotype distinct from classic chilblains (perniosis) and acrocyanosis (Table I). The characteristics similar to primary perniosis (1, 2) include female predominance, middle age range, the physical appearances of blotchy lesions, pruritis and pain, asymmetry and low BMI. Atypical features for primary perniosis, more in keeping with acrocyanosis (3) include a diffuse distribution of discoloration affecting the whole digit, persistence of symptoms for many months, relative improvement in warmer seasons, lack of association with smoking and the poor response to traditional vasodilators.

Ganatra *et al.* also report 16 cases with chronic chilblain-like lesions which they have called 'tardive Covid-19 pseudoperniosis' (4). Simi-



**Fig. 1.** Series of representative images illustrating diffuse and blotchy areas of erythro-cyanotic and livedoid discoloration of the digits (A–F), with dilated nailfold capillaries (D), desquamation and ulceration (E, F).

**Table I.** Summary of the characteristic features of chronic chilblain-like lesions associated with Covid-19, indicating where there is similarity to acrocyanosis (A) and classic primary perniosis (P).

### Demographic and clinical features

Female gender predominance (P)  
Young and middle age range (A, P)  
Non-smokers (A)  
Fingers more than toes, thumbs generally spared  
Diffuse digital erythro-cyanotic discoloration (A)  
'Blotchy' chilblain-like lesions (P)  
Digital pain, pruritis and swelling (P)  
Persistence (A)  
Worse in colder seasons, partial improvement in warm weather (A)

### Severity associates with

Preceding history of cold sensitivity or primary Raynaud's phenomenon  
Low body mass index (P)  
Low complement C3 and/or C4

### Management

Cold avoidance and warming  
Phosphodiesterase inhibitors potentially useful for severe cases  
Other strategies disappointing, *e.g.* calcium channel blockers, hydroxychloroquine, aspirin (A)

lar to our cases, they report a female predominance, low-middle age range, fingers affected more than toes, high prevalence of preceding cold sensitivity or Raynaud's, and abnormal nailfold capillaroscopy.

In conclusion we describe a series of 26 patients with chronic chilblain-like lesions presenting during the Covid-19 pandemic. This appears to be a novel acrosyndrome as the clinical features are distinct from classic perniosis and acrocyanosis, and MRI shows the appearances of microgeodic disease. The triad of previous cold sensitivity or Raynaud's, a low BMI and low complement was over expressed in the more severe cases. Cold avoidance was sufficient for many cases, however the response to traditional vasodilators was disappointing, with limited evidence suggesting that phosphodiesterase inhibitors may have a role for the most severe cases.

J. NATHAN<sup>1</sup>, MbChb, MRCP  
A. RASTOGI<sup>2</sup>, MD, FRCP  
P.D.W. KIELY<sup>1,3</sup>, PhD, FRCP

<sup>1</sup>Departments of Rheumatology, <sup>2</sup>Radiology, and  
<sup>3</sup>Medical and Biomedical Education,  
St George's University Hospitals NHS  
Foundation Trust, London, UK.

Please address correspondence to:

Patrick Kiely  
Department of Rheumatology,  
St George's University Hospitals NHS  
Foundation Trust, Blackshaw Road,  
London SW17 0QT, UK.  
E-mail: patrick.kiely@nhs.net

ORCID iD: 0000-0002-8091-2717

Competing interests: none declared.

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