Scottish Paediatric & Adolescent Rheumatology Network

Guideline on diagnosis, investigation and management of acutely swollen fingers and toes ('COVID digits')

During the COVID-19 pandemic, there has been emergence of a chilblains-like phenomenon affecting fingers and toes, commonly referred to as 'COVID toes' or 'COVID digits'. This is poorly understood and not always associated with positive coronavirus virology (antibodies or blood/respiratory PCR) or other signs of COVID-19. During the pandemic it has been observed that peaks of chilblain-like lesions have followed on from peaks of SARS-CoV-2 infection.

1. Aim

The aim of this guideline is to provide guidance for medical staff reviewing children and young people presenting with swollen and erythematous digits, with or without other cutaneous manifestations, in the absence of obvious underlying infections or another cause. We aim to ensure treatable pathology is not missed, whilst not overwhelming specialist paediatric rheumatology services with referrals.

2. Definitions

- ***Dactylitis***: swelling of a digit (finger or toe).
- ***'COVID digits'***: a chilblains-like phenomenon with swollen and erythematous fingers and toes. Sometimes with associated cutaneous manifestations such as papules, desquamation and ulceration.
- ***Chilblains***: a cutaneous inflammatory reaction resulting from vascular response to cold, characterised by erythematous papules on the hands and feet (usually fingers and toes) with associated oedema and erythema. There may be pruritis or pain. Chilblains are rare in children, usually idiopathic and occasionally associated with other diseases such as connective tissue disorders, cryopathies or malignancy.

3. Background Information

COVID digits tend to affect younger people and late in the COVID-19 disease course. Children and young people may present with swollen toes and/or fingers, which may be erythematous, purpuric or violaceous, associated with cutaneous manifestations such as macules, papules, desquamation and ulceration. The lesions may be pruritic or painful.

The majority of children and young people presenting in this way have a benign course and the lesions resolve without intervention within one month.

4. Differential Diagnosis

The differential diagnosis of dactylitis includes:

- Infection (cellulitis, osteomyelitis)
- Sickle-cell anaemia
- Sarcoidosis
- Spondyloarthropathy e.g. psoriatic arthritis.
- Underlying systemic connective tissue disease or vasculitic process such as systemic lupus erythematous or cryoglobulinaemia.

5. Patient Assessment

In all children and young people presenting with erythematous and/or swollen digits, a full history and systematic examination, including joint assessment, should be carried out.

Important points to cover in the history:

- Joint pain
- Joint swelling
- Colour changes
- Rashes
- Duration of symptoms
- Effect of cold exposure on symptoms
- Features of connective tissue disease e.g. weight loss, fever, oral ulcers, arthritis, abdominal pain, haematuria
- COVID history in patient and family members
- Family history including arthritis, connective tissue disease, psoriasis, IBD

Important signs on systemic examination:

- Joints – restriction, swelling, erythema, heat
- Rashes, Livedo reticularis
- Abnormal BP

6. Investigations

In the absence of an obvious alternative diagnosis such as cellulitis or injury, the following investigations should be performed:

- Bloods including FBC, ESR, U+Es, LFTs, CRP. Consider measuring ANA if other features of connective tissue disease.
- Urinalysis specifically checking for protein and blood. If proteinuria present send for urine protein:creatinine ratio.
- Clinical photography if possible or ask parents to document on their camera phone.
- Testing for COVID-19 (via blood or throat/nose swab) is not required unless the patient has other features of COVID-19.

7. Management

If the patient is systemically unwell, consider admission to hospital under the acute medical team/rheumatology for further investigation and management.

If there are other systemic features such as fever, malaise, joint symptoms or signs (arthralgia, swelling, erythema, heat, restricted movement), widespread rash – discuss with rheumatology.

If the child or young person is otherwise systemically well, give advice to keep the hands and feet warm and covered and avoid cold/damp exposure. Symptomatic management such as simple analgesia and anti-histamine for pruritis should be provided.

Consider a short course of topical steroids, such as:

- Betnovate ointment once nightly for 7-10 days
- Mometasone 0.1% ointment once nightly for 14 nights
- Clobetasol propionate 0.05% ointment twice daily for 7 days

If topical steroids have already been trialled without success, consider a short course of oral prednisolone, 1mg/kg once daily for 7 days.

In the absence of any other concerning features, give worsening advice and advise the patient/carer to seek further review if ongoing symptoms at 6 weeks. At this stage, a referral to paediatric rheumatology is warranted.

8. Useful Resources for Parents

https://www.aad.org/public/diseases/coronavirus/covid-toes

https://covidskinsigns.com/

SPARN Raynaud's advice sheet: https://www.sparn.scot.nhs.uk/wp-content/uploads/2021/04/Raynauds-Advice-sheet.pdf

9. Supporting Literature

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NOTE
This guideline is not intended to be construed or to serve as a standard of care. Standards of care are determined on the basis of all clinical data available for an individual case and are subject to change as scientific knowledge and technology advance and patterns of care evolve. Adherence to guideline recommendations will not ensure a successful outcome in every case, nor should they be construed as including all proper methods of care or excluding other acceptable methods of care aimed at the same results. The ultimate judgement must be made by the appropriate healthcare professional(s) responsible for clinical decisions regarding a particular clinical procedure or treatment plan. This judgement should only be arrived at following discussion of the options with the patient, covering the diagnostic and treatment choices available. It is advised, however, that significant departures from the national guideline or any local guidelines derived from it should be fully documented in the patient's case notes at the time the relevant decision is taken.