

Guttate psoriasis secondary to COVID-19

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DESCRIPTION

A 38-year-old man presented with symptoms of fever and dry cough. There was a past medical history of chronic plaque psoriasis with a single active psoriatic plaque affecting the lateral aspect of the right ankle. The patient was using no regular medication and no topical therapy for psoriasis at the time of presentation with respiratory symptoms. There were no throat symptoms and pharyngeal examination was normal. Severe acute respiratory syndrome coronavirus 2 (SARS-CoV2) RNA was detected from a nasopharyngeal swab confirming COVID-19 infection.

At day 6 following the onset of fever, multiple erythematous lesions began to form inferior to the knee on the anterior and lateral aspect of the right lower limb. At day 22 the patient sought a dermatological opinion as these lesions had failed to improve.

On examination there were multiple drop-like well circumscribed salmon pink erythematous papules with a fine scale, measuring between 4 and 12 mm in size, consistent with guttate psoriasis (figure 1). Blood tests showed IgG positivity for SARS-CoV2, with otherwise normal full blood count, C-reactive protein and routine biochemistry. Antistreptolysin O titre was negative at <200 IU/mL.



Figure 1 Right lower limb 22 days after the onset of symptoms of COVID-19. Multiple drop-like well circumscribed salmon pink erythematous papules with a fine scale, measuring between 4 and 12 mm in size, consistent with guttate psoriasis. A chronic psoriatic plaque is present on the lateral aspect of the right ankle.



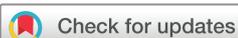
Figure 2 Right lower limb after 2 weeks of topical treatment. Significant clinical improvement on review after 2 weeks, with no new lesions and regression of those previously identified.

Treatment was commenced with topical readily diluted betamethasone 0.025% cream applied two times per day. There was significant clinical improvement on review after 2 weeks, with no new lesions and regression of those previously identified (figure 2).

Guttate psoriasis is known to occur after acute infection. It is associated with genetic and

Patient's perspective

I initially experienced only mild symptoms of COVID-19 and was recovering in self-isolation. Almost a week into the illness I began to develop a new rash on my right leg that spread quite rapidly over the next few days. I have a previous history of psoriasis, which had been stable for many years so despite being a practicing physician, I did not immediately link the new rash with this problem. Things continued to get worse over the next 2 weeks so I sought an urgent dermatology consultation. The rash was recognised as a flare of guttate psoriasis and I was relieved that it responded so quickly to betamethasone cream. Now, around a month down the line, things are much better and my skin has almost healed. When I looked up COVID-19 as a cause for guttate psoriasis, I realised this had not been previously reported, so I was keen to collaborate as a co-author to report this new association.



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Learning points

- ▶ Guttate psoriasis manifests as multiple drop-like well circumscribed erythematous papules and is commonly associated with acute, particularly streptococcal, infection.
- ▶ Severe acute respiratory syndrome coronavirus 2 was identified as the infective precipitant in this case and further such cases may emerge as we learn more about the clinical manifestations of the COVID-19 illness.
- ▶ High-quality evidence for treatment of guttate psoriasis is lacking, but the prognosis is good and rapid involution is common.

environmental factors, and usually arises in children or younger adults.¹ It is classically associated with streptococcal infection,² although respiratory virus infection can also trigger psoriatic flares in the absence of concurrent streptococcal infection.³ A possible mechanism for viral infection leading to psoriatic flare is dysregulation of innate immune response following stimulation of toll-like receptor 3 by viral RNA leading to production of pathogenic cytokines/chemokines IL-36- γ and CXCL8.³

This is the first case reported of an acute guttate flare of chronic psoriasis secondary to confirmed COVID-19 infection. Guttate psoriasis is known to have a better prognosis than other types of psoriasis and rapid involution with long-term remission is common.⁴ The quality of evidence for treatment of guttate psoriasis is very low with an absence of trials assessing the

efficacy and safety of phototherapy, topical or systemic drugs.¹ We observed rapid induction of remission with readily diluted betamethasone 0.025% cream.

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REFERENCES

- 1 Maruani A, Samimi M, Stembridge N, *et al*. Non-antistreptococcal interventions for acute guttate psoriasis or an acute guttate flare of chronic psoriasis. *Cochrane Database Syst Rev* 2019;4:CD011541.
- 2 Telfer NR, Chalmers RJ, Whale K, *et al*. The role of streptococcal infection in the initiation of guttate psoriasis. *Arch Dermatol* 1992;128:39–42.
- 3 Sbidian E, Madrange M, Viguier M, *et al*. Respiratory virus infection triggers acute psoriasis flares across different clinical subtypes and genetic backgrounds. *Br J Dermatol* 2019;181:1304–6.
- 4 Ko H-C, Jwa S-W, Song M, *et al*. Clinical course of guttate psoriasis: long-term follow-up study. *J Dermatol* 2010;37:894–9.

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