

Beau lines associated with COVID-19

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■ Cite as: *CMAJ* 2020 September 8;192:E1040. doi: 10.1503/cmaj.201619

A 45-year-old man presented with a horizontal groove over all his fingernails and toenails. The grooves were most noticeable over his great toenails bilaterally, with a horizontal groove 5 mm from the proximal nailfold (Figure 1). Three and a half months previously, he had been given a diagnosis of coronavirus disease 2019 (COVID-19) after a positive nasopharyngeal swab polymerase chain reaction test, owing to symptoms of diarrhea, fever and shortness of breath, which lasted for 10 days and did not require admission to hospital.

The cutaneous findings associated with COVID-19 have been classified into 5 distinct patterns: a maculopapular eruption, chilblain lesions, urticarial lesions, a vesicular eruption and livedo reticularis and necrosis.¹ Some of these findings, such as the vesicular eruption, appear early in the disease course; others are seen later, such as the chilblain pattern.²

Beau lines are transverse grooves in the nail plate that result from transient interruption of the growth of the proximal nail matrix.³ They are often noticed 2–3 weeks after a systemic insult and their appearance parallels the length of time needed for the nail to grow past the proximal nailfold. As the toenails grow at a rate of about 1.62 mm per month, the distance of the Beau lines from the proximal nailfold in our patient reflects the timing of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection.⁴ Other causes of Beau lines include localized trauma and systemic triggers such as febrile illness, severe malnutrition, pemphigus, Raynaud disease, Kawasaki disease and chemotherapy. There is no specific therapy for Beau lines, as they self-resolve if the underlying condition has resolved.

References

- Galván Casas C, Català A, Carretero Hernández G, et al. Classification of the cutaneous manifestations of COVID-19: a rapid prospective nationwide consensus study in Spain with 375 cases. *Br J Dermatol* 2020;183:71-7.
- Ladha MA, Dupuis C. SARS-CoV-2-related chilblains. *CMAJ* 2020;192:E804.
- Chu NS, Wu IC, Chen LT, et al. Beau's lines in nails: an indicator of recent Docetaxel and 5-FU use. *Kaohsiung J Med Sci* 2018;34:181-3.
- Yaemsiri S, Hou N, Slining MM, et al. Growth rate of human fingernails and toenails in healthy American young adults. *J Eur Acad Dermatol Venereol* 2010; 24:420-3.



Figure 1: Horizontal longitudinal grooves across the great toenails bilaterally (arrows) measured 5 mm from the proximal nailfold.

Competing interests: None declared.

This article has been peer reviewed.

The authors have obtained patient consent.

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