



Case Report

Half and half nail, is it a marker of severe COVID-19 infection?☆

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ABSTRACT

Introduction: Several cutaneous manifestations have been described during COVID-19 infection, however ungual signs remain neglected. Half and half nail or Lindsay nails is a rare clinical finding, frequently seen in chronic renal failure, and many other disorders.

Case report: We report 2 cases of half and half nail aspect occurring during severe COVID-19 infection, without a history of kidney disease, suggesting that 'Lindsay Nails' can be considered as a severity marker.

Discussion: An increasing number of nails changes has been reported since the COVID-19 outbreak. As well as the acral manifestations of COVID-19, the acute appearance of Half and half nail sign can be explained by a vascular involvement that may induce a transient matrix injury.

Conclusion: We report the first description of acute onset of half and half nails during COVID-19 severe infection in 2 patients without a history of kidney failure or any other condition previously described, suggesting that it can be considered as a severity marker.

1. Introduction

The coronavirus disease 19 (COVID-19) pandemic brought the interest of all physicians including dermatologists, especially with the description of cutaneous manifestations related to the infectious episode [1]. Increasing cases of nails changes were also reported in association with the coronavirus [2–4].

Half and Half nail sign or Lindsay nails is a nail disorder that occurs with various chronic diseases, commonly seen in chronic renal failure. It is characterized by red, pink or brownish discoloration of the distal nail with a whitish appearance of the remaining nail.

We report 2 cases of acute onset of half and half nail sign occurring with severe COVID-19 infection.

Our case reports were reported in line with CARE guideline [5].

2. Case reports

2.1. Case number 1

An 82-year-old male, diabetic on insulin therapy, had been admitted to the COVID-19 department. He was diagnosed with a severe COVID

-19 pneumonia confirmed with a positive polymerase chain reaction (PCR) and CT scan that showed 75% impairment scored CORADS 6, with progressive deterioration of respiratory function motivating his transfer to intensive care five days after his admission. Laboratory findings showed lymphopenia and elevation of inflammation markers, kidney function remained normal during his hospitalization period.

Two days before respiratory symptoms, the patient reported the appearance of fingernails changes. Physical examination found color changes of all fingernails, with the white proximal portion of the nail and red distal half in favor of Lindsay's nails or half and half nail aspect (Fig. 1). Dermoscopy gave a clear vision to the sharp line of demarcation between the two portions, in addition to some mega-capillaries (Fig. 2).

The patient died in the intensive care unit due to respiratory distress.

2.2. Case number 2

A 71-year-old woman, diabetic on oral treatment, without a history of kidney failure, anemia, or digestive disease, had been admitted to COVID-19 department for a severe infection; scored CORADS 6 with a positive PCR, 50–75% impairment in chest tomography, elevation of inflammation markers with a normal kidney function. One month later,

☆ Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

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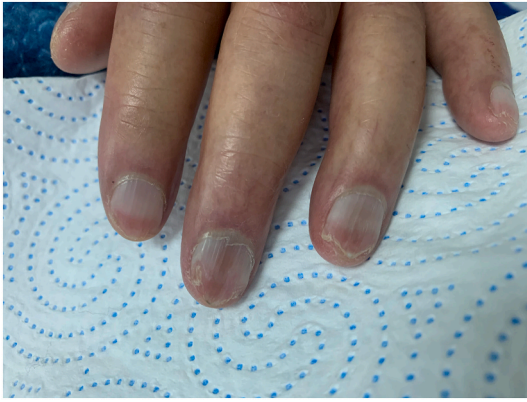


Fig. 1. Clinical image : Half and Half nail aspect in fingers of a patient with severe COVID-19 infection.



Fig. 2. Dermoscopic image showing a clear demarcation between red and white area.

she had been referred to our dermatology department for a pustular rash with facial edema, that was diagnosed as Acute Generalised Exanthematous Pustulosis to aspirin. Furthermore, physical examination showed half and half aspect in all fingernails evolving since the infectious episode.

3. Discussion

Half and half nails, also known as or Lindsay's nails were first described by Bean in 1963 [6] and later described by Lindsay in 1967 in association with kidney disease [7]. Clinically, it shows as a nail with a white proximal portion and a reddish-brown or a pink distal portion, with a sharp demarcation line between the two portions, which usually remains parallel to the distal free margin of the nail. It is a rare clinical finding, but it can be seen in chronic renal failure. It can also appear in yellow nails syndrome, Crohn's disease, Kawasaki's disease, Behcet's disease, cirrhosis, hyperthyroidism, zinc deficiency, citrullinemia, pellagra, and HIV infection [8]. The Lindsay nails pathogenesis is not clear, but an acidosis and an increase in toxic uremic substances is suspected to stimulate melanin formation by nail matrix melanocytes.

COVID-19-associated cutaneous and nail manifestations have been increasingly seen in the last year, garnering attention from the national and international dermatological communities [9].

Many nail changes have been described recently in association with COVID-19 infection, such as transverse leukonychia (Mees lines) [2–4]; red half-moon nail sign [2–4] and Beau lines [2–4]. These nail alterations can be explained by keratinization disorders of nail tablet associated with vascularization alterations of nail beds.

Among the acral cutaneous manifestations of covid19, COVID chilblains or 'COVID toes' were widely reported, their pathogenesis remains

unclear but a vascular involvement were highly suggested due to the presence of immunoglobulins and C3 deposits on dermal vessels and the presence vascular microthrombi [10]. The genesis of Half and half nails sign during severe COVID-19 infection can be related to that same vascular involvement that may induce a transient matrix injury.

Even if both of our patients have a history of diabetes mellitus, the acute onset of half and half nails sign, and its occurrence during the infectious episode suggest that it is more likely that these nail changes are related to the COVID-19 infection.

4. Conclusion

Since the COVID-19 outbreak, several clinical manifestations were reported, including cutaneous and nail changes. We report the first description of acute onset of half and half nails during COVID-19 severe infection in 2 patients suggesting that it can be considered as a severity marker.

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Author contribution

Soraya Aouali: Conception. Saida Sefraoui: Data collection. Nada Zizi: Supervision. Siham Dikhaye: Supervision, Correction.

Registration of research studies

1. Name of the registry:
2. Unique Identifying number or registration ID:
3. Hyperlink to your specific registration (must be publicly accessible and will be checked):

Guarantor

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Declaration of competing interest

None.

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