

# Ladakhi koilonychia

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## DESCRIPTION

A 48-year-old native highlander of the Leh Ladakh region (approximate height 12 000ft) was diagnosed with severe koilonychia after visiting a medical camp (figures 1–4).

On examination, his built was normal, there was no pallor and no other signs of nutritional deficiency. Abdominal, respiratory, neurological and cardiovascular examinations were normal. The patient's haemoglobin was 16.1 g/dL. All other haematological and biochemical parameters were normal. Peripheral blood smear revealed a normal picture. Iron studies revealed serum iron of 105 (65–175) µg/dL, the total iron binding capacity was 259 (250–450) µg/dL, transferrin saturation was 18.2 (13–45)% and serum ferritin 166.7 (22–322) µg/dL.

Important differentials for a patient with koilonychia include chronic iron deficiency, trauma,

haemochromatosis, thyroid dysfunction, high altitude, exposure to petrochemicals and Plummer-Vinson syndrome.<sup>1 2</sup> Detailed history and examination ruled out the above causes except the exposure to high altitude as a cause for koilonychia in our patient.

Exposure to high altitude is a known aetiology for koilonychias, also described by some authors as 'Ladakhi koilonychia'.<sup>3</sup> The pathophysiology of the commonly found koilonychias in native highlanders is still not well understood; though some describe it to be seasonal, secondary to anaemia or covert iron deficiency due to increased erythropoiesis.<sup>3</sup> Our patient had none of these described pathophysiological elements.

This image demonstrates the likelihood of development of koilonychia in a well-adapted native highlander.



**Figure 1** Images of Ladakhi koilonychia in frontal view.



**Figure 3** Spooned nails with oil drops retained by nails in frontal view.



**Figure 2** Images of Ladakhi koilonychia in profile.



**Figure 4** Spooned nails with oil drops retained by nails in profile.



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## Learning points

- ▶ High altitude exposure is a known cause of koilonychia, described by some as Ladakhi koilonychia.
- ▶ The aetiology of this koilonychia needs to be ascertained and is not always a consequence of iron deficiency.
- ▶ Before labelling high altitude as a cause of koilonychia, all other treatable causes of koilonychia should be ruled out.

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**Patient consent** Obtained.

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