

From Fingertips to the Diagnosis: Telltale Sign in Nails in a Thyrotoxic Patient

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Case Description

A 32-year-old female with unevaluated past medical history presented with the features of overt thyrotoxicosis for 3 weeks duration. She complained of palpitations, excessive sweating, anxiousness and irritability. She also noticed unintentional weight loss for 08 months. Her bowel habits were normal. Rest of the clinical history was unremarkable.

On examination her BMI was 17.5 kg/m² and she was anxious and fidgety. She was not pale. She had bilateral hand tremors with palmar sweating. Her reflexes were exaggerated. Her blood pressure was normal, but had tachycardia with a regular pulse rate of 120 bpm. She had a goiter with some nodularity. (Figure 1). There was no audible bruit over the goiter. There were eye signs suggestive of Graves' orbitopathy. (Figure 2), but the clinical activity score was low.

Interestingly we noted that the patient was having some nail changes in both hands. (Figure 3)

Investigations:

Free T4: >90 pmol/L

TSH: 0.015 mIU/L

Hb: 13.5 g/dl

USS neck: Diffusely enlarged goiter with 02 nodules in right and left thyroid lobes. Increased vascularity was noted.

The diagnosis of Graves' thyrotoxicosis on top of a multinodular goitre with Graves' Orbitopathy was made. She was commenced on Carbimazole and supportive treatment. As she showed clinical and biochemical improvement in 3 to 4 months, the nail changes too reversed (Figure 4).



Figure 1 & Figure 2

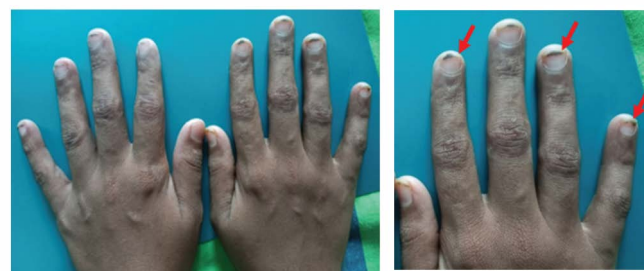


Figure 3



Figure 4

What is the abnormality you can see in figure 3?

Plummer's nails in Thyrotoxicosis.

(Onycholysis in the context of longstanding thyrotoxicosis with no other identifiable causes)

What is the clinical significance of this abnormality?

Plummer's nails are onycholysis in the context of longstanding thyrotoxicosis. It is due to the spontaneous separation of the nail plate from the nail bed which is progressive from distal to proximal. As shown in this image, there can be scoop shovel appearance of nails with flattening and dark-lines

due to trapping of dirt. Plummer's nails can be seen in about 5% of patients with hyperthyroidism, but this is not a specific sign for hyperthyroidism. This can occur with many other conditions such as psoriasis, sarcoidosis, bronchiectasis, fungal or bacterial infections and multiple medications particularly includes antineoplastic drugs.^[1]

Plummer's nails help to differentiate between longstanding hyperthyroidism and subacute or acute thyrotoxicosis, providing a valuable clinical insight for diagnosis and management. Furthermore, in cases where Plummer's nails are present without other

obvious causes, clinician should consider the potential for longstanding hyperthyroidism, even with absent thyrotoxic features, particularly in conditions such as apathetic thyrotoxicosis.^[2]

References

1. Ghayee, H. K., Mattern, J. Q., 3rd, & Cooper, D. S. (2005). Dirty nails. *The Journal of clinical endocrinology and metabolism*, 90(4), 2428.
2. Malan, M., Dai, Z., Jianbo, W., & Quan, S. J. (2019). Onycholysis an early indicator of thyroid disease. *The Pan African medical journal*, 32, 31.