

# Dermoscopy Case

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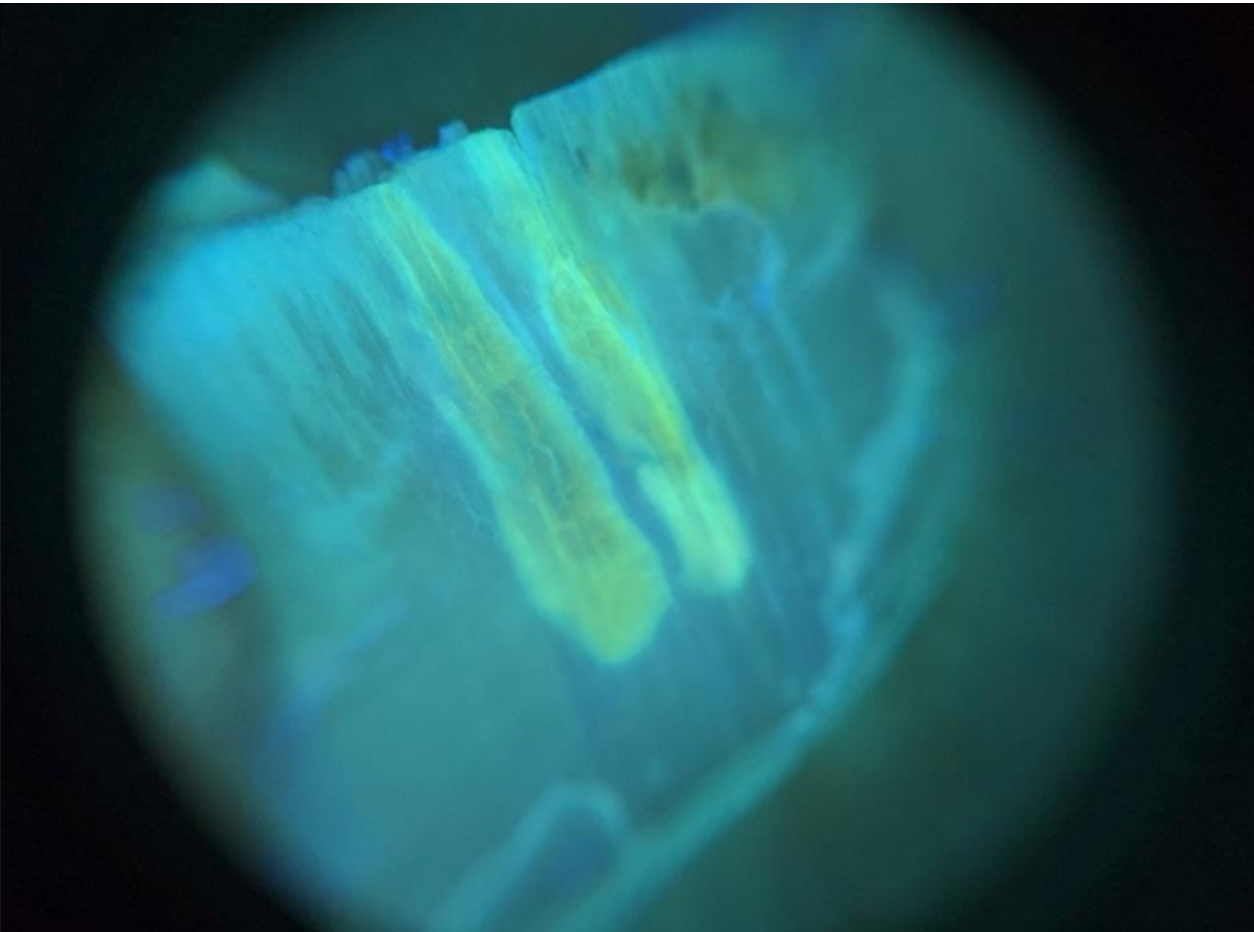
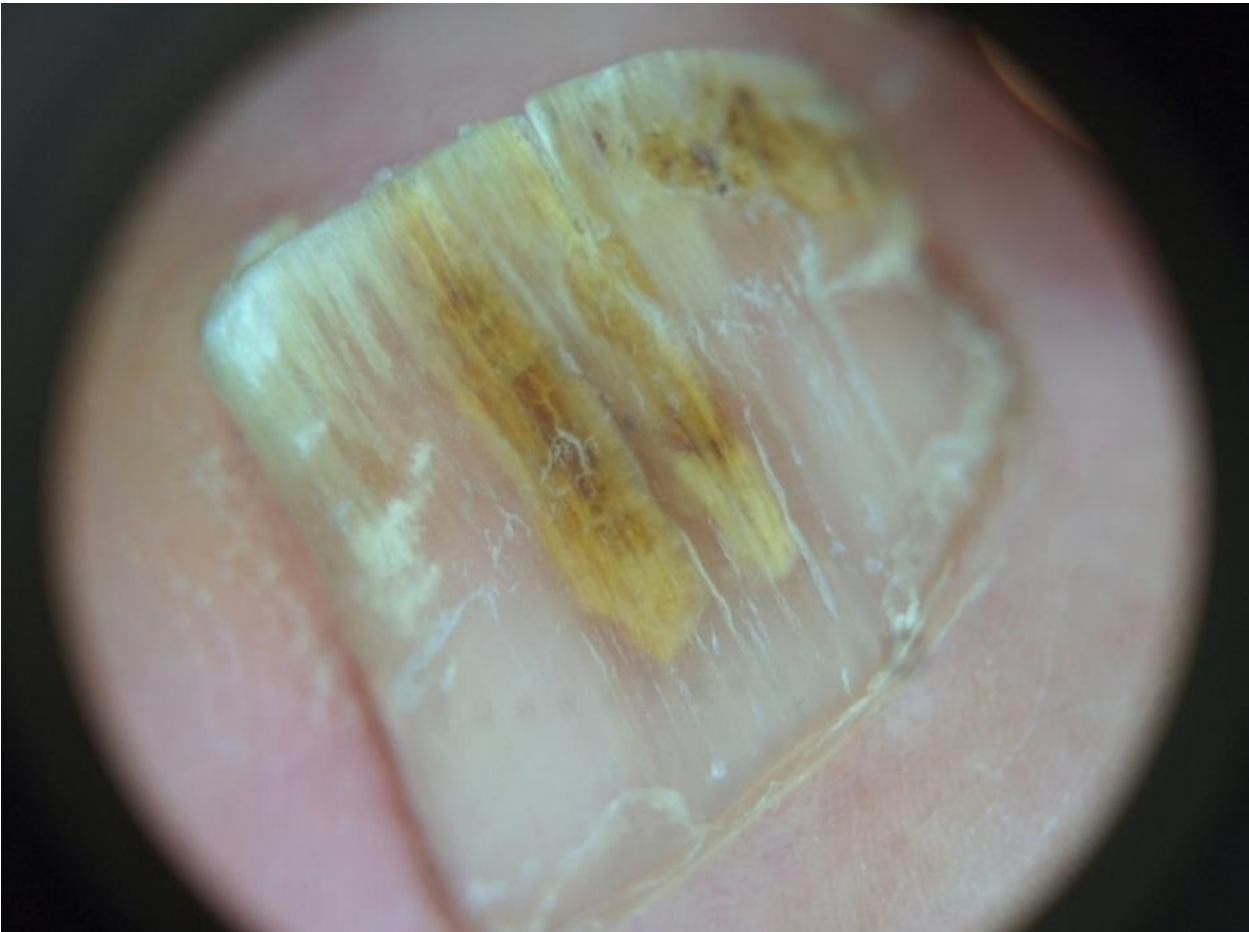
# Brief history of case (max 50 words)

- 74F with R great toe nail deformity
- PMH: superficial spreading melanoma 0.8mm R arm (11/10/23)
- 2/12 history of sensation of throbbing at night
- Change in colour and concerned due to previous PMH MM
- GP noted: black line from cuticle to tip → 2WW referral made
- No history of trauma

# Images – Macroscopic



# Images – Dermoscopic



# Differential diagnosis

- Pseudomonas aeruginosa infection
- Onychomycosis
- Psoriasis
- Lichen planus
- Paronychia
- Idiopathic/traumatic onycholysis

# Management

- Patient reassured regarding benign nature and advised to seek topical treatment in the first instance.
- Patient discharged from Skin Cancer Service back to primary care.
- Nail clippings collected in dermatology outpatients later confirmed clinical diagnosis:
  - +Fungal elements seen (positive microscopy diagnostic for fungal infection)
  - +Isolated **Trichophyton interdigitale**

# Images – Macroscopic with annotations

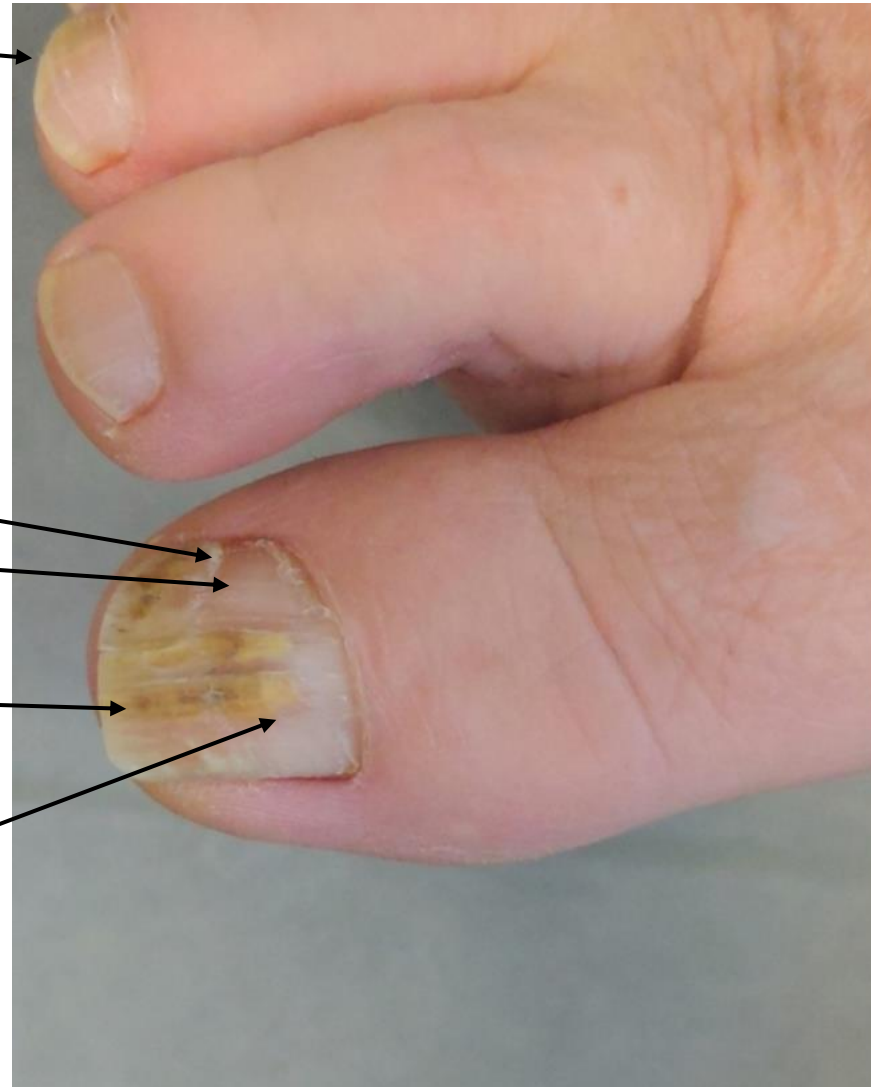
Additional toenail involvement

Nail plate crumbling

Onychorrhexis

Discolouration extends from the distal free edge with proximal progression

Yellow streaks

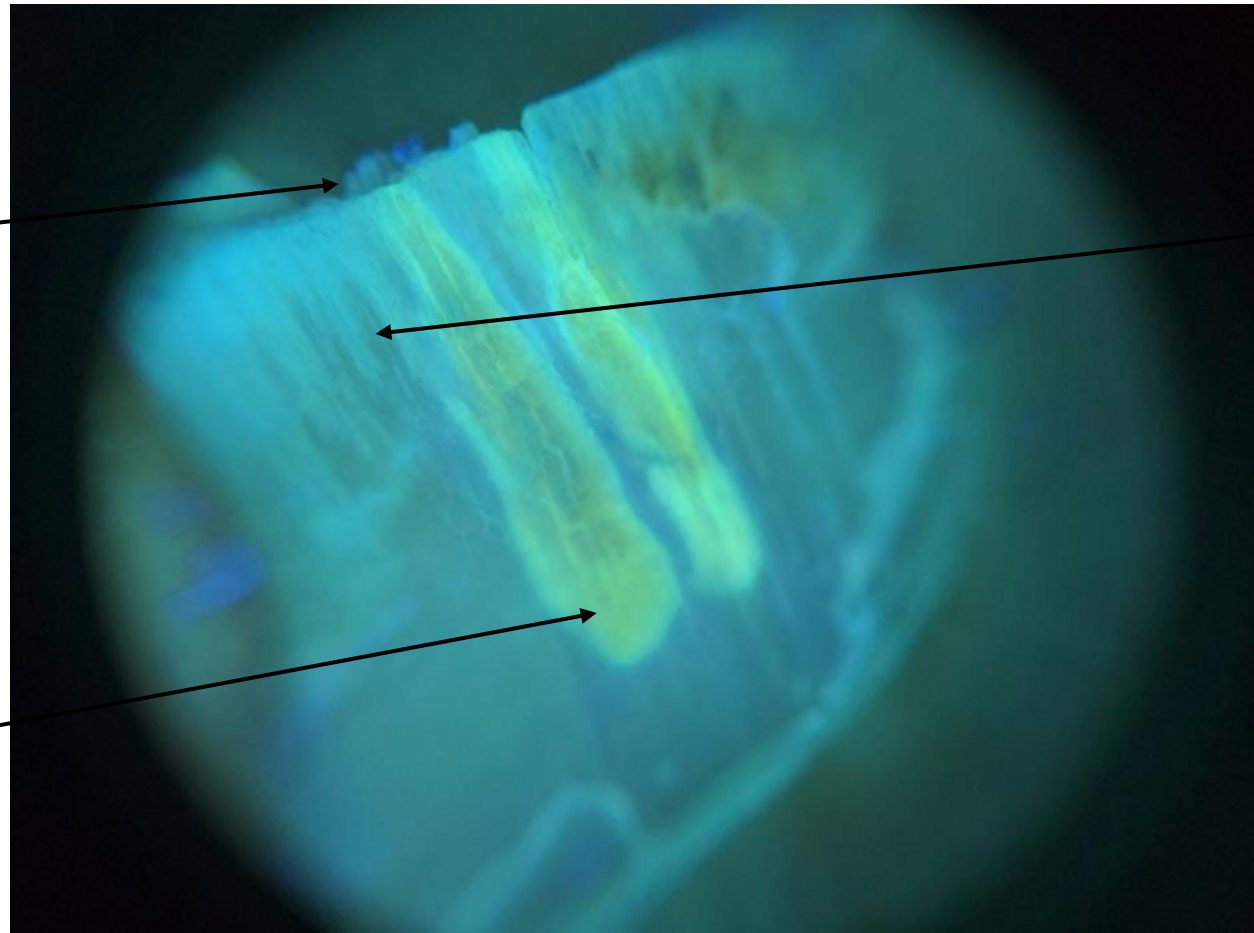


# Images – Dermoscopic with annotations

## **Subungual**

**hyperkeratosis:** There is a noticeable thickened area under the nail, which is more pronounced in the UV image. This thickening is often due to keratin debris and fungal colonisation, a common finding in onychomycosis.

**Fluorescence:** There are bright areas under the UV light. This fluorescence is a characteristic sign of certain fungal infections, where the fungi or their metabolic byproducts emit light under UV exposure.



**Longitudinal striations**



# Brief summary of Onychomycosis

- Toenails are typically more affected than fingernails.
- May be asymmetrical.
- Commonly impacts the 1st, 2nd, and 5th toenails.
- Can occur with interdigital infections (plantar and interdigital).
- Nails usually thicken and yellow; distal infections may cause crumbling.
- Superficial infections make the nail surface white and powdery.
- Rarely, fungal infections appear brown-black; differentiate from melanoma, as **fungal discolouration starts distally**, whereas **melanoma** usually presents as a **continuous line from the proximal nail**.
- Rule out other skin conditions (e.g., psoriasis) through thorough history and full skin examination.
- Psoriasis and other dystrophic conditions may coexist with fungal infections.

# Other learning points

Dermoscopy can enhance clinical diagnosis of onychomycosis and fungal melanonychia, reducing unnecessary referrals and testing and thereby improving the overall diagnostic accuracy.

## Management Recommendations

- Confirm diagnosis with nail clippings and microscopy/culture before initiation of treatment.
- Use topical antifungals for mild cases; oral antifungals for severe cases.
- Maintain proper foot hygiene and keep nails trimmed.
- Educate patients on preventing reinfection through good foot care and avoiding shared nail tools

## Treatment Summary

### Topicals:

- Suitable for distal/superficial infections with low cure rates.
- **Tioconazole:** BD for 6-12 months.
- **Amorolfine (Loceryl, Curanail):** 2X weekly for 3-6 months (fingernails) or 6-12 months (toenails).
- File or cut nails before application.

### Systemic Treatment:

- **Terbinafine (Lamisil):** Most effective. 250mg OD for 6 weeks (fingernails) or 3-4 months (toenails).
- **Itraconazole:** if terbinafine is unsuitable. 400mg OD for 1 week per month (pulse therapy). Fingernails: 2 cycles; Toenails: 3-4 cycles.
- Stop oral medication once clear nail growth appears, but full growth takes months.

# References

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- DermNet, 2024. **Fungal Nail Infections**. Available at: <https://dermnetnz.org/topics/fungal-nail-infections>.
- Gupta, A.K., Versteeg, S.G., Shear, N.H., 2022. **Onychomycosis in the 21st century: An update on diagnosis, epidemiology, and treatment**. Journal of Clinical and Aesthetic Dermatology,15(12), pp. 17-26. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8733849/>.
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- Signed BSDS consent form attached