



Scratching Out Melanoma?

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Clinical Image

An 88-years old man was referred to our outpatient clinic with a pigmentation on his fifth left finger suggestive of subungual melanoma, which lasted two months. Clinical examination revealed a longitudinal black coloration with a diameter of 5 mm nearly affecting the entire length of the nail plate; notably, the lesion was fading away at the distal end and had a rough surface (Figure 1). In dermoscopy, the lesion showed a black, partially whitish, area at the proximal end of the lesion, whereas brownish-black, curved, lines were seen at the distal part (Figure 2).

Clinical differential diagnoses included subungual melanoma, a fungal infection and, a blunt trauma of the nail plate.



Figure 1: Clinical image of the fifth left finger showing a longitudinal black coloration with a diameter of 5 mm nearly affecting the entire length of the nail plate. Notably, the lesion fades away at the distal end and has a rough surface.



Figure 2: Dermoscopically, the lesion shows a black, partially whitish, area at the proximal end of the lesion, whereas brownish-black, curved, lines are seen at the distal part.

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Figure 3: Clinical image after scratching out nearly the whole pigmentation with only a few black dots remaining.

Due to scratching with a scalpel, nearly the whole pigmentation disappeared with a few black dots remaining (Figure 3). Afterwards, a fungal smear was taken from the derived material and the PCR proved a contamination with the mold fungus *Fusarium solani*. A further treatment was not necessary.

Comment: The genus *Fusarium* mostly contains saprophytes and plant pathogens. Infections in humans are rarely observed and are mostly the result of various precipitating predisposing factors like a reduced immune status [1-3].

Several studies have shown that hypha of *Fusarium* spp. have the ability to infiltrate the healthy nail structure by themselves and are not limited to be secondary invaders of the nail. Furthermore, this mould has the ability to use keratin, which is available in the nail plate as its only source of nutrition [1-3].

The subungual melanoma is a rare subtype of melanoma. The relative rate of subungual melanoma among all subtypes is reported to be 0.31% in the Australian population and 2.8% in the Scottish population. In contrast, the frequency is much higher in the Asian population (e.g. China: 10%) [4-6].

Early stages typically appear as a band-like, brownish-black pigmentation nearly affecting the whole length of the nail plate. In these stages, a correct diagnosis remains challenging; the most common differential diagnoses are a subungual hematoma, a subungual nevus, an ethnic hyperpigmentation (typically more than one nail affected), and hyperpigmentation caused by various drugs (e.g. cytostatics) [7-9].

In advanced lesions, the pigmentation is usually broader than 6mm and shows different shades of brown and black. Moreover, outgrowth of the melanoma to the adjacent skin (Hutchinson sign), ulceration, and bleeding are observable in later stages [10,11].

In dermoscopy, multiple irregularly pigmented lines of brown, black, and grey color are commonly seen [5]. Aside from that, the two most important dermoscopic criteria of subungual melanoma are [10]: (i) the pigmented band covers more than 2/3 of the whole nail, (ii) the presence of grey and black color.

To summarize, a dark-brown, band-like discoloration of the nail plate should always raise red flags and subungual melanoma has to be excluded, however, especially in lesions with a rough surface, fungal infections should always be considered as differential diagnosis.

Keywords: Melanoma; Dermoscopy; Subungual; *Fusarium solani*

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