



Inflammatory Nail Conditions

20

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20.1 Psoriasis

20.1.1 Introduction

Nail psoriasis is a quite common manifestation of psoriatic disease, with a prevalence ranging from 20/30% in subjects with no joint involvement up to 80% in patients with arthritis [1–5]. Importantly, it can be the sole presentation of psoriasis, thereby its recognition is of key importance [1–5]. There is no high-quality data on possible differences in terms of prevalence across the various phototypes, likely due to an underrepresentation of darker skin types in studies on nail psoriasis [1–5].

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20.1.2 Clinical Presentation

Nail psoriasis may affect both the nail matrix and the nail bed, thereby giving rise to different lesions (Figs. 20.1a, 20.2, 20.3, 20.4, 20.5, 20.6, 20.7 and 20.8a) [1–5]. In detail, irregular (nongeometric) pitting, crumbling, red spots of the lunula, Beau's lines, and leukonychia are the most common changes due to nail matrix involvement, while nail bed psoriasis mainly manifests as subungual hyperkeratosis, onycholysis, splinter hemorrhages, and salmon patches [1–5]. Pustules with progressive nail destruction are seen in acrodermatitis continua of Hallopeau (Fig. 20.9a) [1–5]. Psoriatic onychopathy is usually more frequent in fingernails than toenails [1–5].

Clinical manifestations of nail psoriasis do not significantly vary according to the phototype, apart from a minor visibility of some changes in very dark skin (e.g., salmon patches) mainly due to the presence of racial nail pigmentation, that may be accentuated in patients suffering from psoriatic onychopathy [1–5].

20.1.3 Dermoscopy

Regarding nail changes due to matrix involvement, dermoscopy may be particularly helpful in enhancing the visualization of pitting (Figs. 20.1b and 20.2b) that appears as deep and irregular (in terms of distribution, size, and shape)

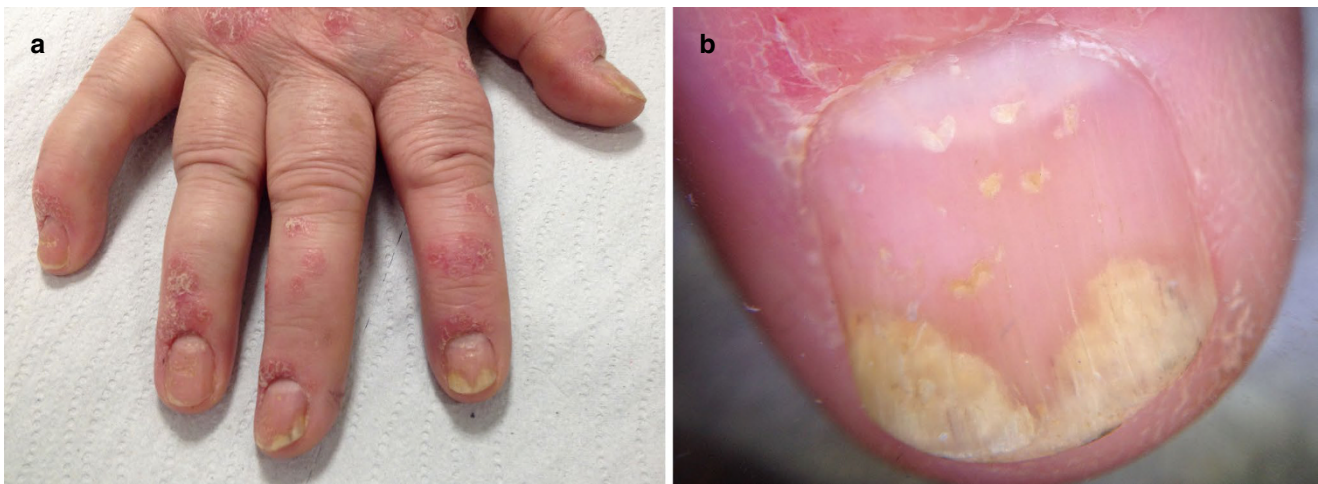


Fig. 20.1 Psoriatic onychopathy with irregular pitting and onycholysis in a Caucasian woman (a). Dermoscopy shows pitting (deep and irregular depressions of the nail plate with white/yellow spots inside) along

with onycholysis (lifting of the nail plate free edge showing an indented proximal border surrounded by a proximal salmon band) (b). (Courtesy of Enzo Errichetti, MD – Udine, Italy)



Fig. 20.2 Psoriatic irregular nail pitting in an African man (a). Dermoscopic examination reveals pitting, appearing as deep and irregular depressions of the nail plate with brown spots inside (b). (Courtesy of Enzo Errichetti, MD – Udine, Italy)

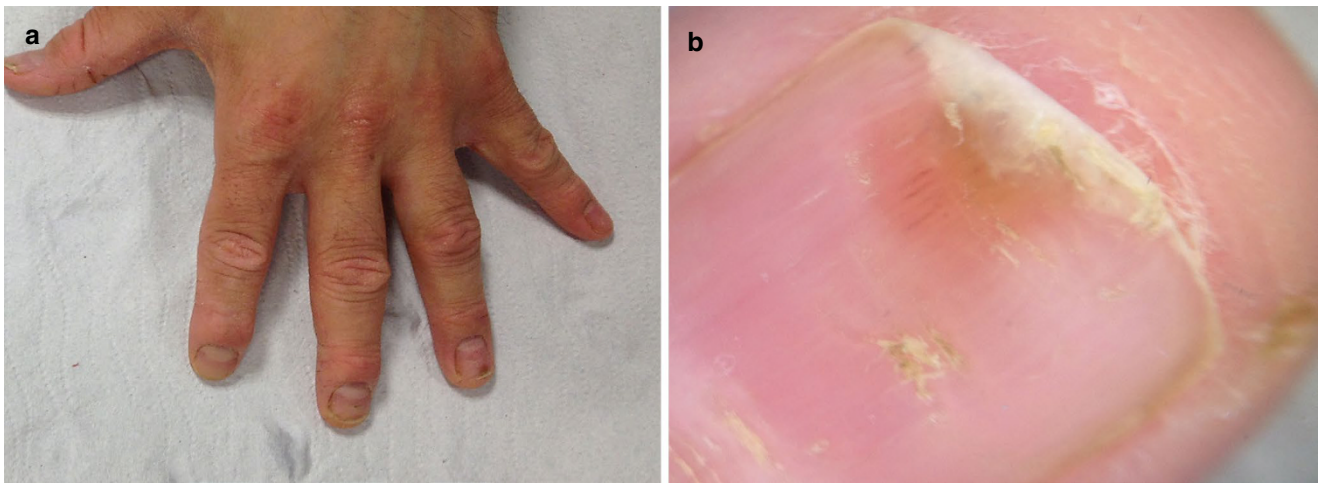


Fig. 20.3 Psoriatic onychopathy with salmon patches and subtle Beau's lines in a Caucasian man (a). Salmon-colored area is well visible on dermoscopy along with transverse depressed white lines (representing Beau's lines) (b). (Courtesy of Enzo Errichetti, MD – Udine, Italy)



Fig. 20.4 Psoriatic onychopathy with splinter hemorrhages in an Indian man (a). Dermoscopy displays transverse depressed white-brown lines (Beau's lines) and splinter hemorrhages (b)

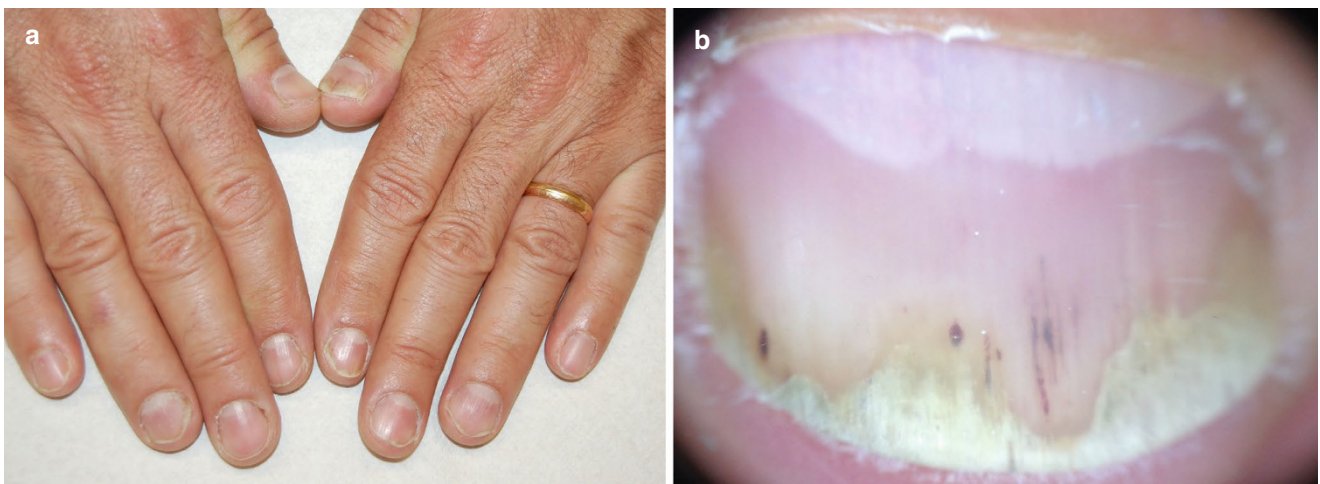


Fig. 20.5 Psoriatic onychopathy with splinter hemorrhages and a slight onycholysis in a Caucasian man (a). Dermoscopic assessment shows splinter hemorrhages as well as onycholysis appearing as lifting of the nail plate free edge with an indented proximal border surrounded by a salmon band (b)

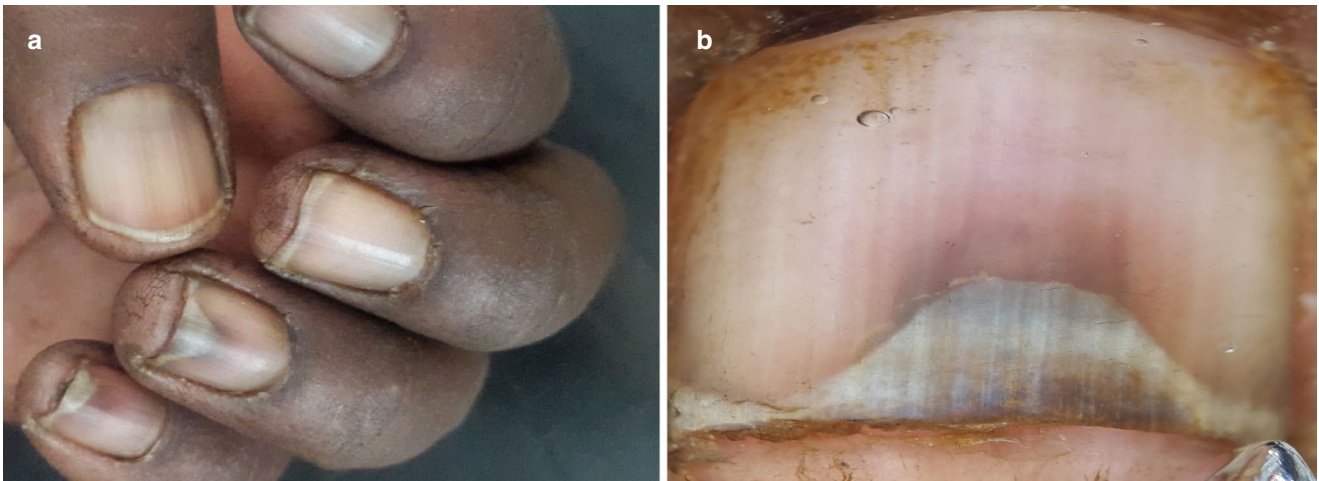


Fig. 20.6 Psoriatic onycholysis in an Indian man (a). Dermoscopy reveals lifting of the nail plate free edge with an indented proximal border surrounded by a salmon band smooth nail plate detachment with a proximal dark red-brownish/salmon-colored band (b)

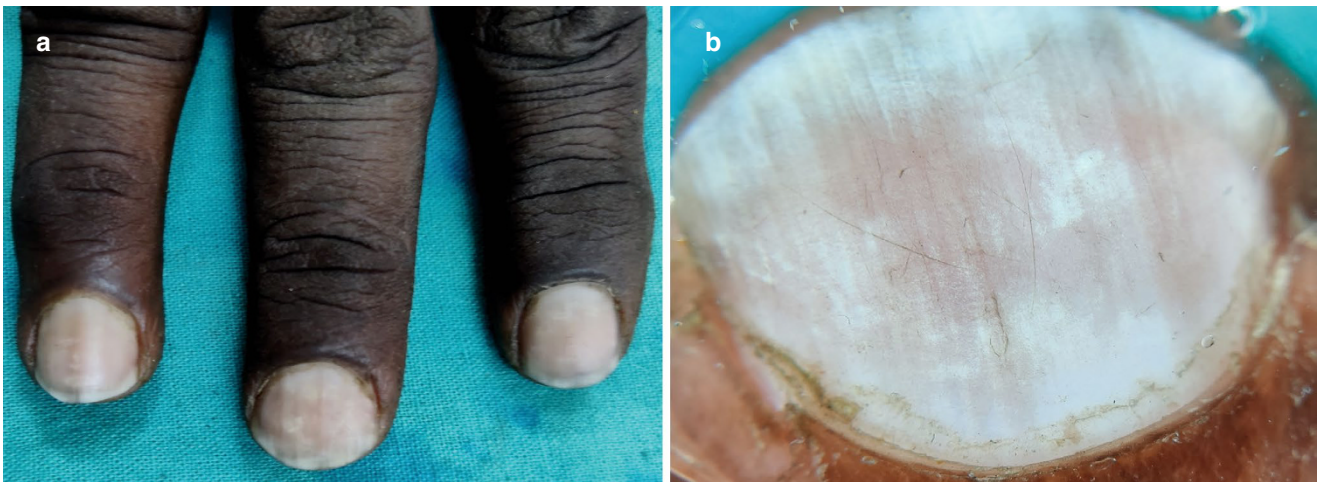


Fig. 20.7 Nails in a psoriatic Indian patient feature no specific feature on clinical examination (a). Dermoscopy displays salmon spots appear as salmon-colored/brownish areas (b)

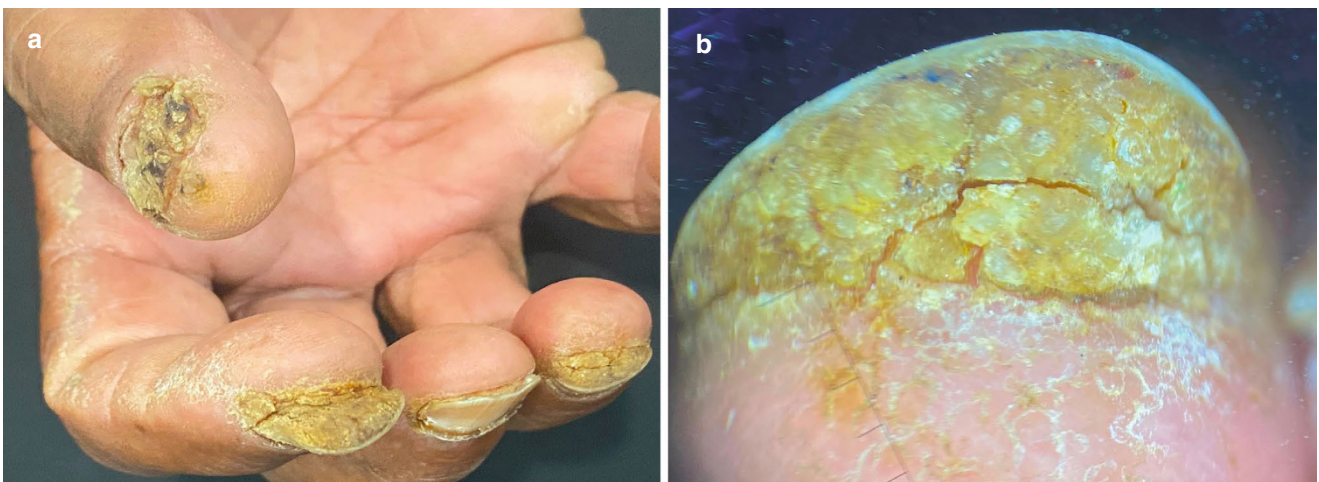


Fig. 20.8 Psoriatic onychopathy in an Indian man (a). A homogeneous yellowish subungual keratotic mass is evident on dermoscopy (b)

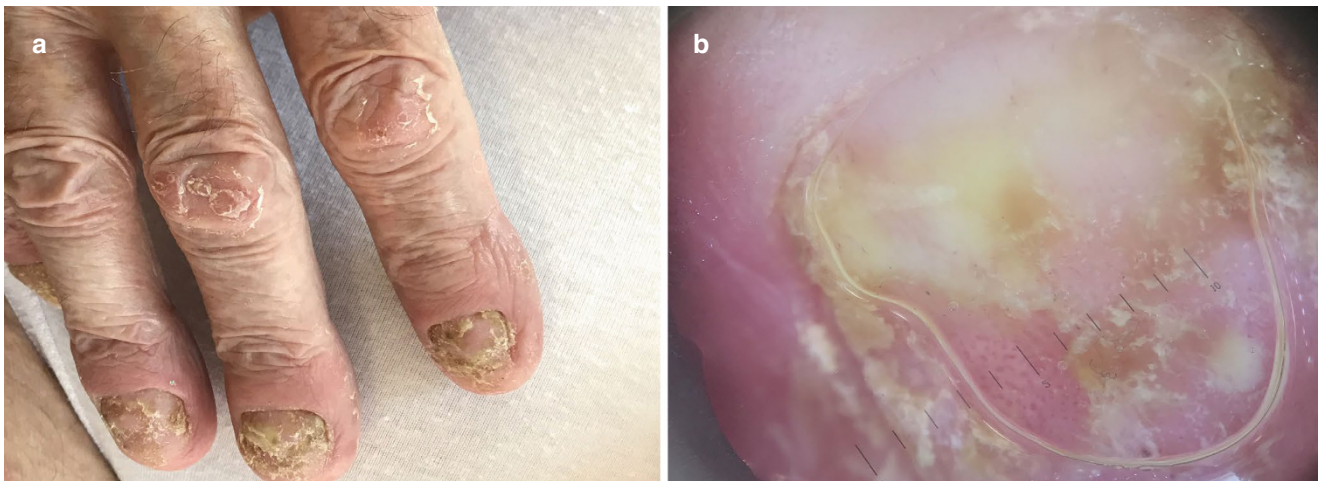


Fig. 20.9 Acrodermatitis continua of Hallopeau in a Caucasian man with no pustules visible on clinical ground (a). Dermoscopy reveals round and irregular yellow areas (pustules) along with dotted vessels (b). (Courtesy of Enzo Errichetti, MD – Udine, Italy)

depressions of the nail plate often showing brown (dark skin) or white/yellow spots inside (histologically related to foci of parakeratosis, with or without melanin exfoliation) [4–7]. Pits are better seen using a dry setting, with preservation of white/brown structures inside [4–7].

Another sign that is well-visualized on dermoscopy (especially with the use of gel) is the mottled (red) lunula that looks like irregularly distributed reddish spots of the lunula regardless skin type. Beau’s lines (Figs. 20.3b and 20.4b) and crumbling may also be seen on dermoscopic assessment as transverse depression (with brown discoloration inside, especially in dark skin) and wide irregularities of the nail plate, respectively [4–7]. A dry setting is usually advised to observe these findings [4–7].

Moving to nail bed changes, dermoscopy is mainly used to facilitate the recognition of psoriatic onycholysis and salmon spots. In detail, the former typically presents as lifting of the nail plate free edge that show an indented proximal border surrounded by a typical proximal red/salmon band (Figs. 20.1b and 20.5b) that may show a darker hue in very dark phototypes (Fig. 20.6b) [4–7]. On the other hand, salmon spots appear as roundish/irregular salmon-colored or dull-red/brownish (dark skin) areas and are better seen by using gel (Figs. 20.3b and 20.7b) [4–7]. Dermoscopic examination may also help identify other nail bed changes, including homogeneous white or yellow (especially in skin of color) subungual hyperkeratosis (Fig. 20.8b) and splinter hemorrhages (better visualized by using gel) (Figs. 20.4b and 20.5b) [4–7].

Finally, dermoscopy may also be used to magnify dotted vessels of proximal nailfold (mainly in lighter phototypes) and hyponychium or detect tiny pustules in nail pustular psoriasis (acrodermatitis continua of Hallopeau) in early stages in which they are difficult to see on clinical ground (Fig. 20.9b) [4–7].

20.2 Lichen Planus

20.2.1 Introduction

Nail lichen planus (NLP) is an uncommon inflammatory disorder that can be found in approximately 10–15% of patients diagnosed with lichen planus, with a greater incidence in adults compared to pediatric population [4, 5, 8]. No clear predilection for any racial group has been reported. As this condition may progressively lead to a complete destruction of the nail unit with functional impairment, a prompt diagnosis and treatment is of key importance [4, 5, 8].

20.2.2 Clinical Presentation

Clinical presentation of NLP does not significantly differ based on skin type, with the most common and typical manifestation being nail thinning associated with longitudinal fissuring and ridging as well as lateral longitudinal grooves due to nail matrix involvement (Figs. 20.10a and 20.11a) [4, 5, 8]. Fingernails are more frequently affected compared to toenails that often show marked nail plate thickening as unique sign [4, 5, 8]. A classical sign of late-stage NLP is dorsal pterygium, resulting from an irreversible destruction of the nail matrix and appearing as a V-shaped projection of the proximal nail fold that fuses with the underlying matrix and, then, with the nail bed giving rise to a nail plate with two lateral segments which gradually decrease in size till complete destruction as the pterygium advances (Figs. 20.12a and 20.13a) [4, 5, 8].

Other possible presentations include onycholysis with or without subungual hyperkeratosis, trachyonychia (Fig. 20.14a), idiopathic atrophy of the nails, “yellow nail

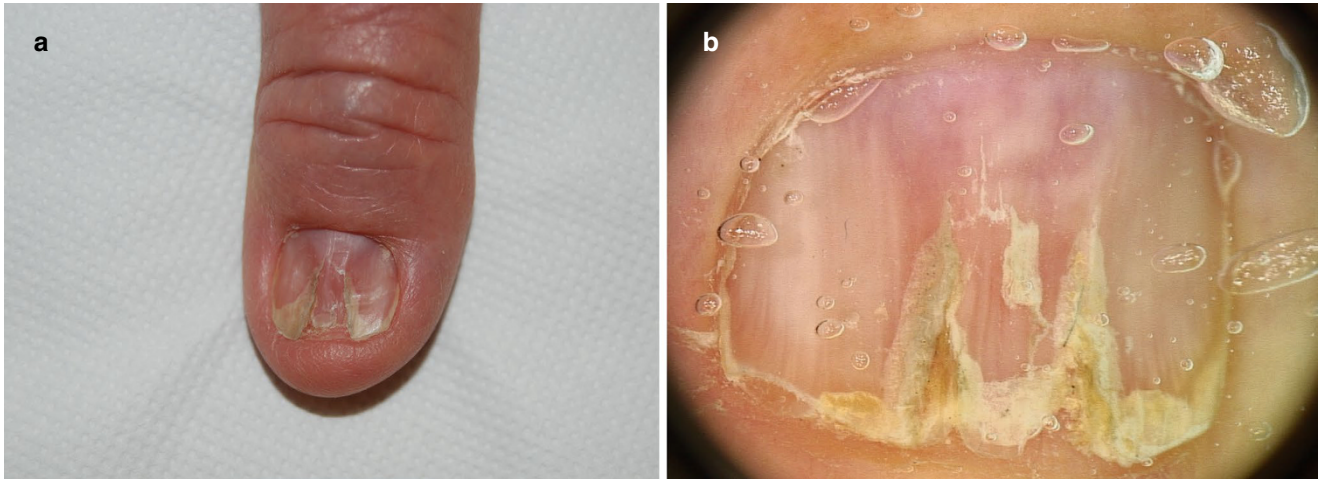


Fig. 20.10 Nail lichen planus with lateral longitudinal grooves and a wide central V-shaped notch in the distal part of the nail plate in a Caucasian woman (a). Dermoscopic examination displays distal V-shaped notches, red irregular areas, and fibrotic white streaks/areas (b)



Fig. 20.11 Nail lichen planus with nail plate irregularities in an Indian man (a). Dermoscopy shows V-shaped superficial irregularities of the nail plate along with multiple red-brown longitudinal pigmentations (b)

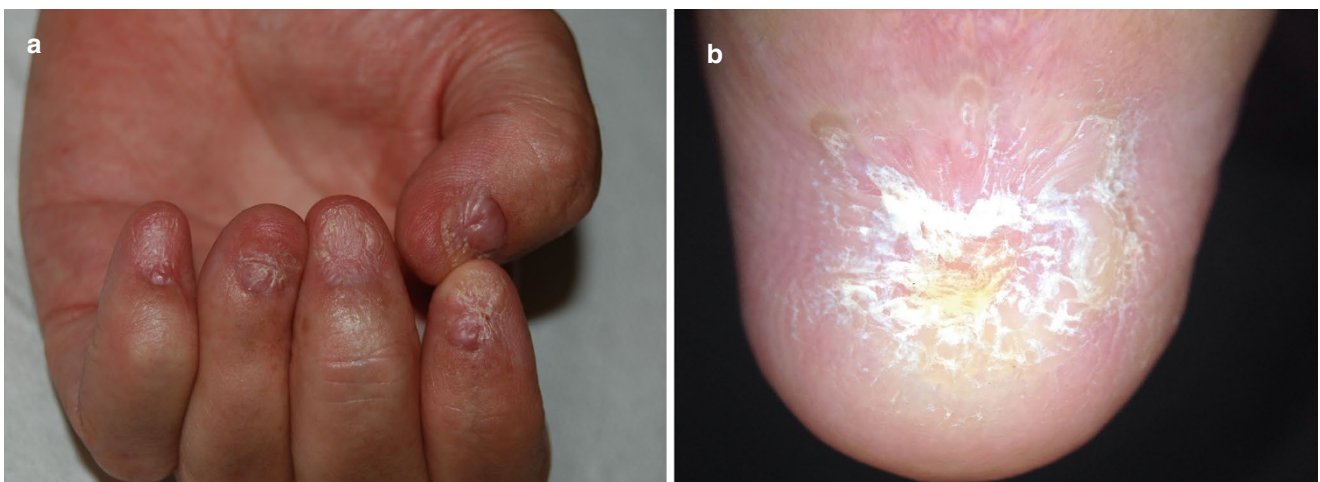


Fig. 20.12 Nail lichen planus with pterygium in a Caucasian man (a). Dermoscopic assessment shows a V-shaped pink-white projection of the proximal nail as well as a complete destruction of the nail plate that is replaced by white hyperkeratosis (b)

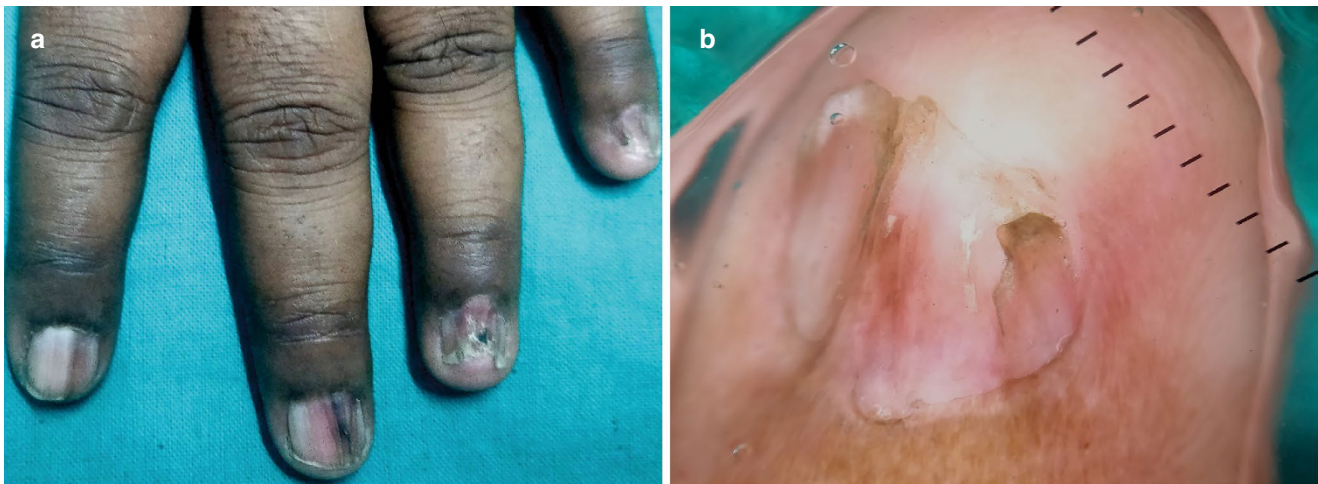


Fig. 20.13 Nail lichen planus with pterygium in an Indian man (a). Dermoscopy displays a V-shaped red-brown projection of the proximal nail fold that fuses with the nail bed and destroys the nail plate (b)

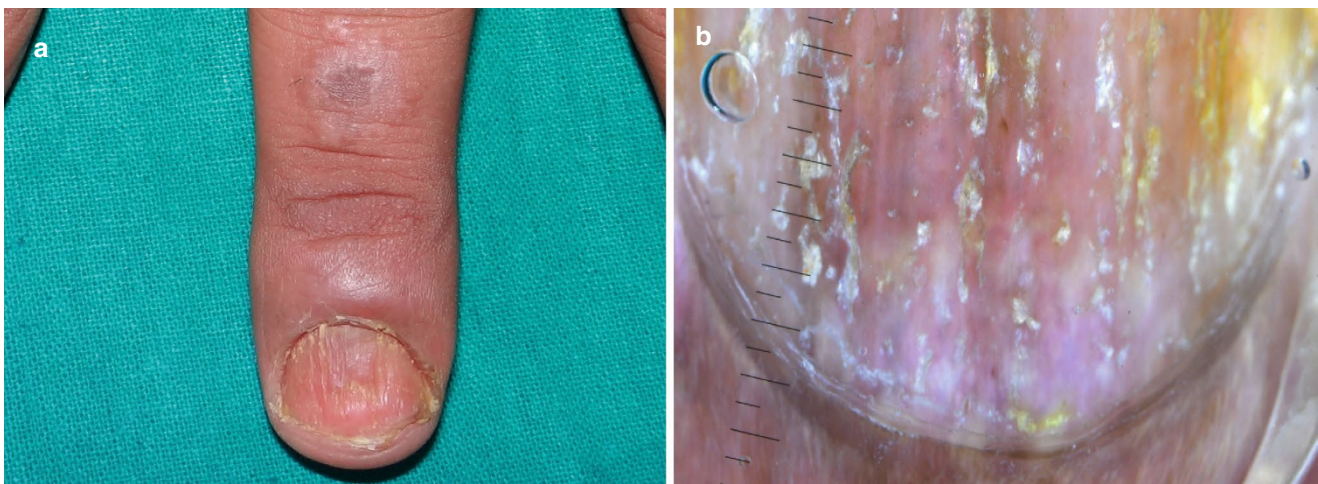


Fig. 20.14 Trachyonychia (“shiny” subtype) due to lichen planus in an Indian man (a). Dermoscopic examination shows superficial ridging and several small geometric gray-white pits; brown irregular areas/longitudinal bands are also evident (b)

syndrome”-like changes, bullous-erosive manifestation, and multiple longitudinal melanonychia, with the last one being by far more common in dark-skinned patients [4, 5, 8].

20.2.3 Dermoscopy

Dermoscopy may allow to better visualize the longitudinal fissures of the nail plate (Figs. 20.10b and 20.11b) and help recognize pterygium (Figs. 20.12b and 20.13b), even in early stages in which such findings are not always clearly seen on clinical ground [4, 5, 9–11]. In particular, dermoscopic examination of pterygium reveals a V-shaped projection of the proximal nail fold that fuses with the nail bed, where it is often possible to see white hyperkeratosis [4, 5, 9–11]. All such findings look quite similar across the all skin tone spectrum, though projection of proximal nail fold in pterygium

(V-shaped projection) has a red-brown/white and pink-red/white hue in dark and light phototypes, respectively [4, 5, 9–11]. Moreover, elongated vessels are often appreciated over the projection in fair skin [4, 5, 9–11].

Additionally, red (light skin) or red-brown/brown (dark skin) irregular areas or longitudinal bands (single/multiple) are also often observed in nails affected by lichen planus (Figs. 20.10b, 20.11, 20.12b and 20.14b) [4, 5, 9–11].

Other features that may be appreciated regardless of skin color include loss/disruption of lunula and other less specific features, such as multiple transverse splits, splinter hemorrhages, linear vessels (Fig. 20.12b), multiple linear fissures with surface keratotic structures (trachyonychia) (Fig. 20.14b), onycholysis, subungual hyperkeratosis, white fibrotic streaks/areas (long-standing lesions), and onychoschizia (nail plate free edge splits) [4, 5, 9–11].

20.3 Eczema

20.3.1 Introduction

The nails are particularly affected in hand eczema, with 33% of patients showing a certain degree of onychodystrophy [4, 5]. Several causes of nail eczema do exist, including atopic dermatitis, allergic contact dermatitis, and irritative contact dermatitis [4, 5].

20.3.2 Clinical Presentation

Clinical features vary based on the stage eczema [4, 5]. In detail, nails appear roughness with lack of luster in subacute phases, while several unspecific changes of proximal nail fold and nail plate may be seen in chronic instances

(Figs. 20.15a and 20.16a), including loss of cuticle, pitting, leukonychia, longitudinal ridges and transverse grooves, trachyonychia, onychomadesis, onychoschizia, brachyonychia, onycholysis, and melanonychia. This last finding is more common in dark-skinned patients [4, 5].

20.3.3 Dermoscopy

Dermoscopic features of proximal nail fold may show fragmentation/loss of cuticle, yellow or brown (dark skin) scaling/crusting, whereas possible nail plate changes seen on dermoscopy include unspecific findings, such as rough, small pits on a dull nail plate, mild subungual hyperkeratosis, and onycholysis with an indented border (Figs. 20.15b and 20.16) [4, 5]. Moreover, pigmentary and vascular changes of the hyponychium may also be appre-

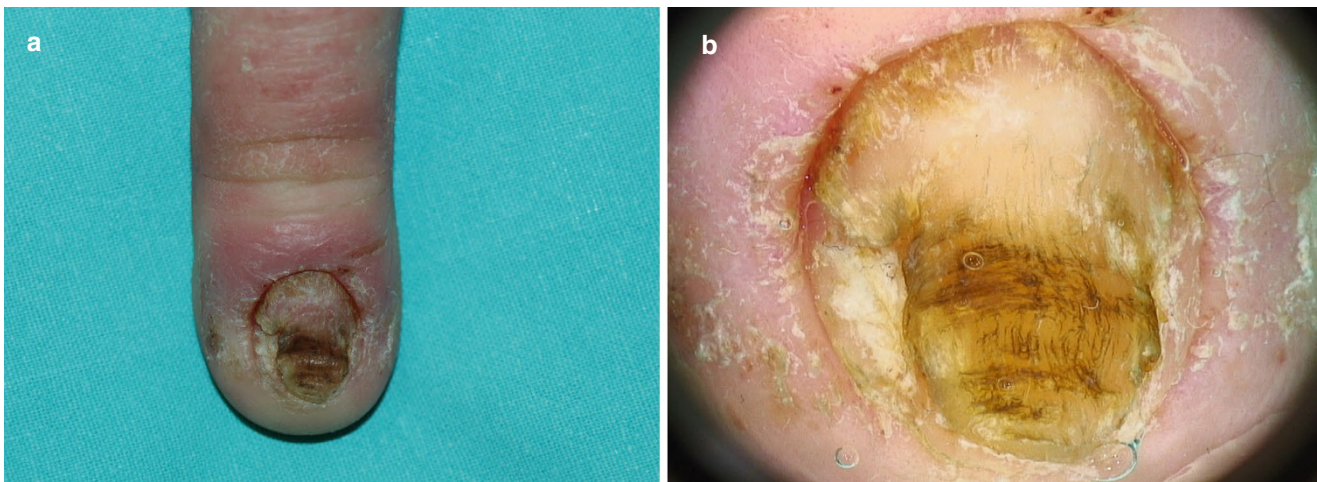


Fig. 20.15 Eczema involving the nails in a Caucasian woman (a). Dermoscopy reveals fragmentation and loss of the cuticle, white/yellow scaling/crusting around the nail plate, as well as a rough and dull nail plate (b)

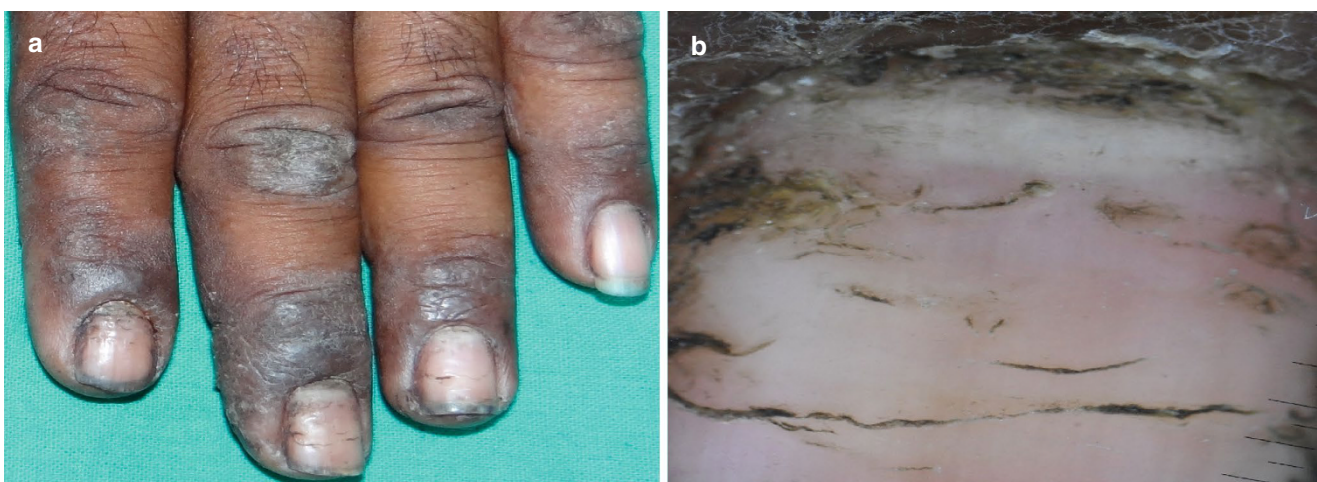


Fig. 20.16 Eczema involving the nails in an Indian man (a). Fragmentation of the cuticle along with multiple transverse brown grooves (Beau's lines) is evident on dermoscopy (b)

ciated, with the former being more common in skin of color [4, 5].

20.4 Trachyonychia

20.4.1 Introduction

Trachyonychia, also called 20-nail dystrophy, is a benign disease mainly affecting children that usually carries a good prognosis with spontaneous improvement over the time [4, 5, 12]. It is regarded as a nonspecific sign of proximal nail matrix inflammation that may be idiopathic or associated

with an underlying inflammatory nail condition, such as eczema, lichen planus, psoriasis, and alopecia areata [4, 5, 12].

20.4.2 Clinical Presentation

From a clinical point of view, trachyonychia is typified by a nail plate roughness, with two main variants being recognized, viz., “opaque” subtype, manifesting as longitudinal and regular fissuring with a sandpaper aspect (Figs. 20.17a and 20.18), and “shiny” subtype, featuring several pits and retention of the luster (Figs. 20.19a and 20.20a) [4, 5, 12].

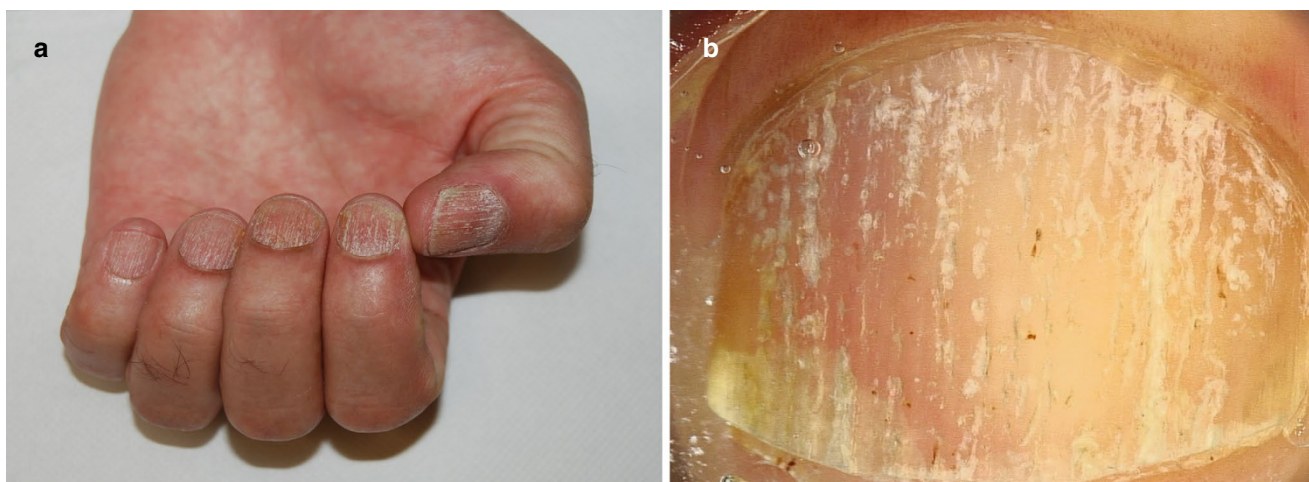


Fig. 20.17 Trachyonychia (“opaque” subtype) in a Caucasian man (a). Dermoscopic assessment shows thinning and lack of brightness of the nail plate along with fine longitudinal striations covered by thin scales and few pits (b)

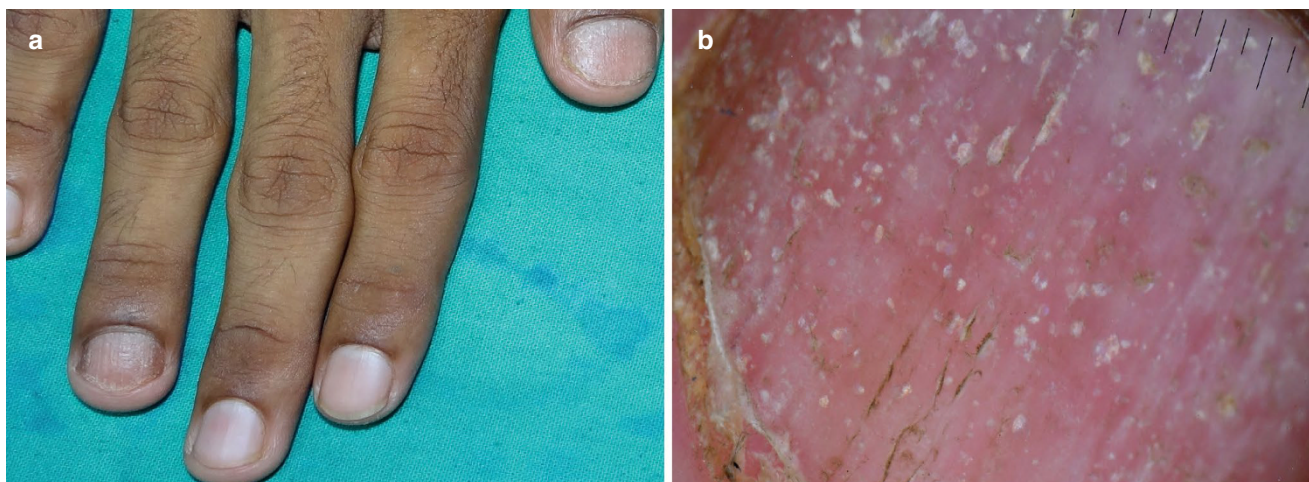


Fig. 20.18 Trachyonychia (“opaque” subtype) in an Indian man (a). Dermoscopy displays lack of brightness of the nail, longitudinal striations covered by thin scales, and few pits (b)

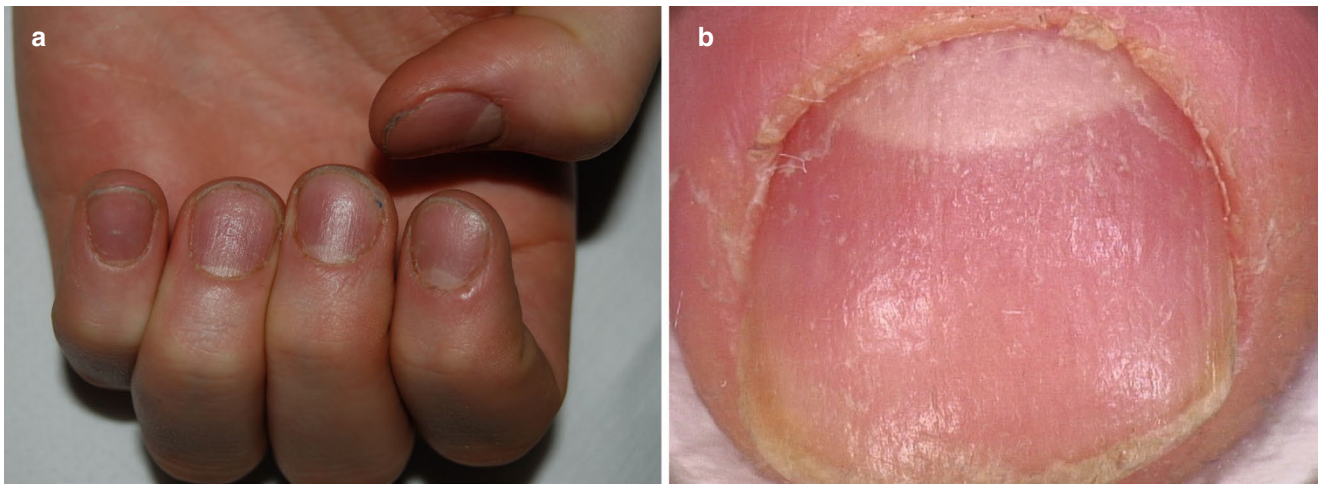


Fig. 20.19 Trachyonychia (“shiny” subtype) in a Caucasian boy (a). Many geometric white pits are evident on dermoscopy (b)

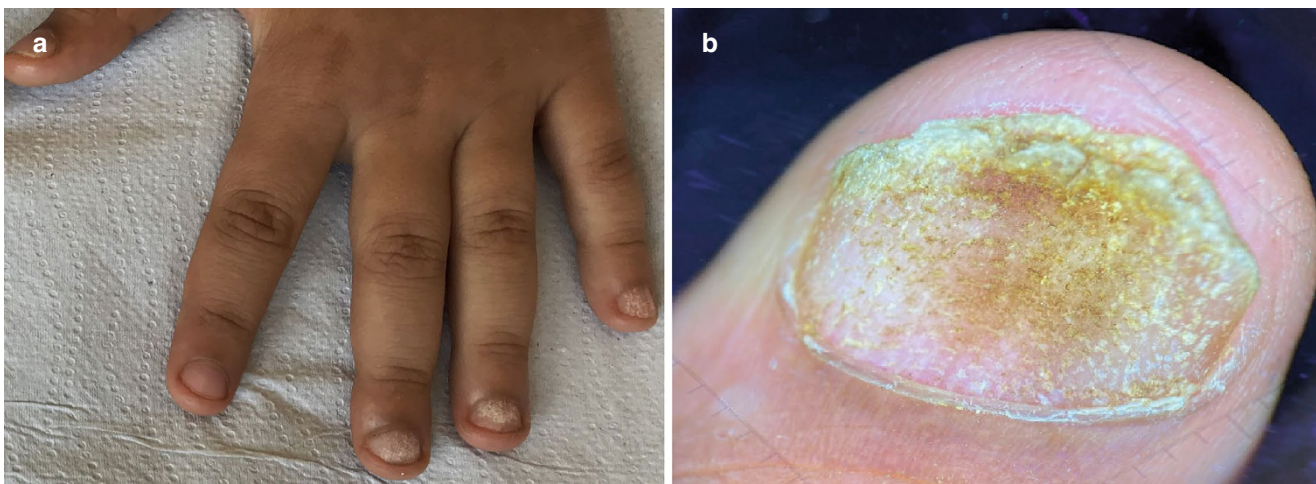


Fig. 20.20 Trachyonychia (“shiny” subtype) in an African boy (a). Dermoscopic examination shows a myriad of small geometric brownish pits (b)

20.4.3 Dermoscopy

Dry dermoscopy should be preferred in this condition as it allows a better visualization of nail plate changes that include mild thinning and lack of brightness along with fine longitudinal striations covered by thin scales in the “opaque” variant (Figs. 20.17b and 20.18b) and superficial ridging and many small geometric gray-white pits in the “shiny” subtype (Figs. 20.19b and 20.20b) [4, 5]. No relevant differences are usually noted according to the skin type, although pits in darker phototypes may also show a gray-brown hue (Fig. 20.20b) [4, 5].

20.5 Darier’s Disease

20.5.1 Introduction

Darier’s disease (DD) is an autosomal dominant genodermatosis typically presenting during the first two decades of life (mostly between 6–20 years) due to mutations in the gene *ATP2A2* (encoding an intracellular calcium pump, called SERCA2) [4, 5, 13, 14]. It occurs worldwide, and no clear predilection according to phototype is reported [4, 5, 13, 14].

20.5.2 Clinical Presentation

Besides the typical hyperkeratotic greasy reddish-brownish papules mainly affecting seborrheic areas and folds, DD often features nail abnormalities that may help diagnosis, including longitudinal broad red and/or white bands and a “V-shaped” nick at the free edge of the nail plate involving few or all fingernails (Figs. 20.21a and 20.22a) [4, 5, 13, 14]. Such alterations may sometimes be subtle on clinical examination [4, 5, 13, 14].

20.5.3 Dermoscopy

Dermoscopic examination may allow to appreciate nail changes, even if difficult to detect from a clinical point of view [4, 5]. In particular, it facilitates the visualization of alternating red and white parallel longitudinal bands along with more or less marked distal splitting of the nail plate that is often located in correspondence of the red bands (Figs. 20.21b and 20.22b) [4, 5]. Notably, reddish bands may display a brownish hue in darker phototypes (Fig. 20.22b) [4, 5]. Bed vessels are usually more visible (especially in lighter phototypes) and associated with splinter hemorrhages in DD [4, 5].

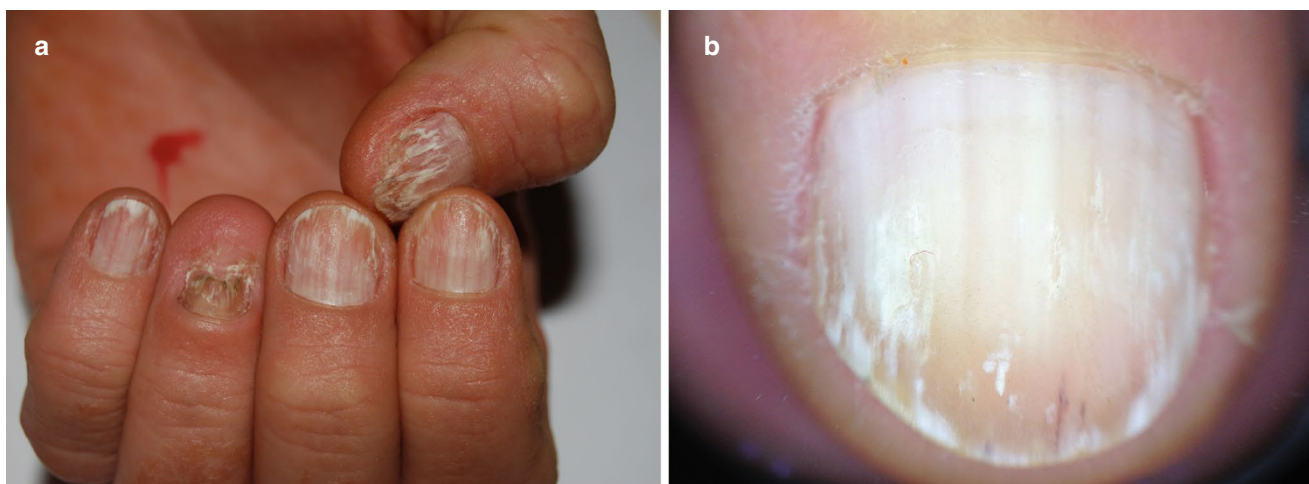


Fig. 20.21 Darier's disease in a Caucasian woman (a). Dermoscopy displays alternating red and white parallel longitudinal bands as well as splinter hemorrhages (b)

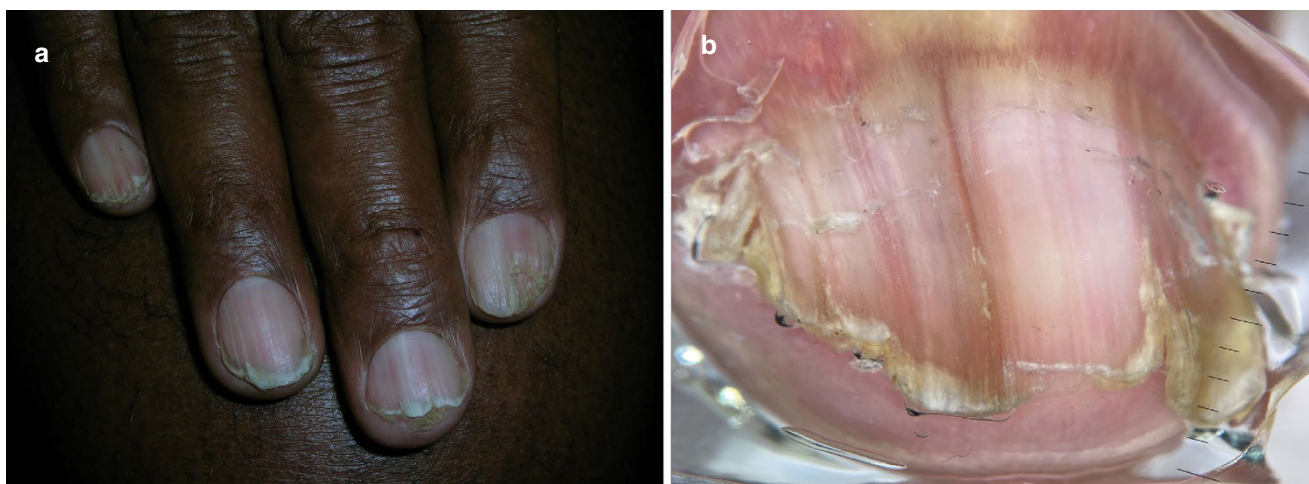


Fig. 20.22 Darier's disease in an African American woman (a). Dermoscopic assessment reveals alternating red-brown and white parallel longitudinal bands along with distal splitting of the nail plate that

is located in correspondence of the red-brown bands (b). (Courtesy of Richard P. Usatine, MD – San Antonio, USA)

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