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A Rare Case of Nail Lichen Planus

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ABSTRACT

Background: Nail lichen planus (NLP) is often associated with the involvement of other mucocutaneous sites. Though isolated nail involvement can be seen in a number of cases, it is seen in up to 10% of cases. Nail lichen planus is a rare case. This is the first case in the last 5 years in the dermatology and venereology department of Dr. M. Djamil Hospital Padang. **Case presentation:** A 26 years old woman came to the Dermatology and Venereology Department at Dr. M. Djamil Hospital Padang with all of her fingernails and toenails ridging, thinning, and brittle, and the color became yellow brown-blackish that worsened 6 months ago. This complaint had been suffered for 5 years ago. Dermatological examination showed onychodystrophy, longitudinal ridging and fissuring, yellow-brownish blackish discoloration on all fingernails and toenails, and there were no skin and mucosa lesions. The dermatology life quality index (DLQI) patient was 8. Potassium hydroxide (KOH) examination and fungal culture were negative. Histopathological examination showed hypergranulosis and sawtooth rete ridges. The patient was treated with clobetasol propionate 0,05% ointment with occlusion twice per day and showed improvement. **Conclusion:** Nail lichen planus can occur in the absence of skin or mucosal involvement. In this case, there is no skin or mucosal involvement. The diagnosis in this case is based on clinical, dermoscopic, and histopathological examination.

1. Introduction

Nail lichen planus (NLP) is often associated with the involvement of other mucocutaneous sites, though isolated nail involvement can be seen in a significant number of cases. Nail impairment is not commonly the first manifestation of the disease, but it may be the only presentation. It is seen in up to 10% of cases.¹ Fingernails are more often affected than toenails, involving two to three fingernails initially.^{1,2} The most common findings of nail lichen planus are diffuse nail involvement with thinning, longitudinal ridging, and distal nail splitting (onychoschizia). Other findings include onycholysis, longitudinal striation with a "sandpaper-like quality" (onychorrhexis), subungual hyperkeratosis, and atrophic or absent nail plates (anonychia).⁶ Nail lichen planus is challenging to treat,

not only due to the slow improvements in the nail but also because of the poor level of evidence on NLP therapies.³

2. Case Presentation

A 26 years old woman came to the dermatology and venereology department of Dr. M. Djamil General Hospital Padang with all of her fingernails and toenails ridging, thinning, and brittle, and the color became yellow, brownish blackish that worsened 6 months ago. Initially, 5 years ago, there was ridging and thinning that first started at the middle of a left fingernail. Then, about 1 year ago, the ridging, thinning, and brittle spread in all of fingernails and toenails. The nails became yellow-brownish and blackish, and the skin around the nails felt itchy. Six

months later, the ridging, thinning, brittle, and the color of nails became yellow brown-blackish worsened.

Dermatological examination showed onychodystrophy, longitudinal ridging and fissuring, yellow-brownish blackish discoloration on all fingernails and toenails, and DLQI patient was 8. Potassium hydroxide (KOH) examination and fungal

culture were negative. A dermoscopy examination showed longitudinal ridging and fissuring in all fingernails and toenails. Histopathological examination showed hypergranulosis and sawtooth rete ridges. The patient was treated with clobetasol propionate 0,05% ointment with occlusion twice per day and showed improvement.

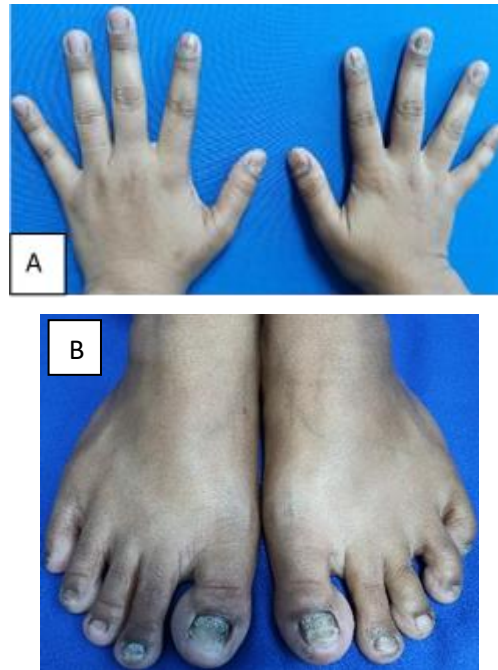


Figure 1. (A&B) Longitudinal ridging and fissuring in all fingernails and toenails.

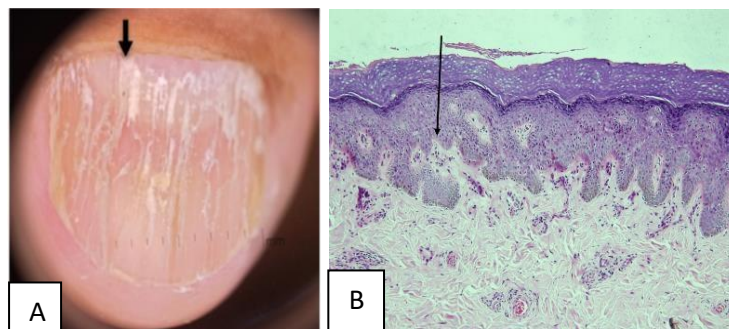


Figure 2. (A) Dermoscopy features showed longitudinal ridging and fissuring, and (B) Histopathological examination showed the sawtooth rete ridges.

3. Discussion

A rare case of nail lichen planus in 26 years old woman was presented. Nail involvement can be seen in 3-15% of patients with lichen planus (LP), with permanent nail dystrophy occurring in approximately

4% of patients. Additionally, isolated nail lichen planus (NLP) may be seen in 1-10% of cases.⁴ Nail lichen planus is the first case in the last 5 years in Dermatology and Venereology Department at Dr. M. Djamil General Hospital Padang. Nail lichen planus,

however, most commonly occurs in the absence of skin or mucosal involvement. Żychowska reported on characteristics of nail lichen planus involvement.⁵ This study presented that the most common finding in the fingernails were longitudinal ridging, nail plate thinning, and onycholysis. The most common finding in the toenails was hyperkeratosis with yellowish discoloration.⁵ On dermatological examination in this case, there were onychodystrophy, longitudinal ridging and fissuring, and yellow-brown-blackish discoloration on all fingernails and toenails.

Trachyonychia is a nail sign that can be caused by several inflammatory disorders that produce a mild disturbance of nail matrix keratinization. These include alopecia areata, psoriasis, and lichen planus.^{6,7} On present illness history and physical examination, there was no abnormality of her hair, there were no itchy and reddish patches with thick white scales on another part of the body, and no irregular pitting and salmon patches on her nail. The KOH examination was negative, and the fungal culture showed no growth. The diagnostic signs for NLP are nail thinning with longitudinal ridging and fissuring, dorsal pterygium, and nail atrophy with and without pterygium.⁶⁻⁸ This is in accordance with NLP in this case. The DLQI patient was 8, which means no profound effect on the patient's life.

One of the dermoscopic signs of nail lichen planus is longitudinal fissures. Dipali reported statistically significant dermoscopic nail findings of the common nail diseases observed in their study. Nail lichen planus shows dermoscopic findings such as longitudinal fissures, white dots and streaks, lamellar splitting, fragmented/loss of nail plate, and longitudinal grooves converging to the center.⁸⁻¹⁰ In this case, there are longitudinal ridging and fissuring in dermoscopic features. Histopathology examination, in this case, showed that sawtooth rete ridges as a clue for nail lichen planus, hyperkeratosis, hyperplasia, acanthosis, and hypergranulosis. Treatment for nail lichen planus is difficult, with a high rate of relapse, lack of cure for some irreversible features, and no definitive treatment guidelines or significant evidence-

based studies.¹¹⁻¹⁵ High-potent topical corticosteroids were used in this case with occlusive for the nails. After 3 weeks of therapy, there was an improvement in the left thumb of the fingernail. The longitudinal ridging and fissuring in a new formation of the proximal nail was decreased.

4. Conclusion

Clinical, dermoscopic, and histopathological features were in accordance to nail lichen planus. The DLQI patient was 8, which means no profound effect on the patient's life.

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