

Generalized lichen nitidus: a case report and review of the literature

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Lichen nitidus, first described by Pinkus in 1907, is a rare skin disease of unknown aetiology [1, 2]. It is clinically characterized by the presence of multiple discrete papules that are tiny, shiny, and of varied colours. Most commonly, the lesions are localized on the neck, trunk, forearms, abdomen and the genitalia. However, infrequently cases with generalized skin involvement have been reported, mostly affecting children. Herein, we present a generalized form of lichen nitidus in a middle-aged woman, which has been successfully treated with acitretin.

A 34-year-old woman was referred to the outpatient clinic of the Department of Dermatology due to the skin lesions, which have been observed for 2 years. Dermatological examination revealed thousand of shiny, polygonal, 1–2 mm sized papules located on the trunk, upper and lower limbs including palms (Figures 1 A–C). The papules did not show any tendency to coalesce (Figure 1 C). The face, neck, soles, and the genitalia were not affected. In the oral cavity, there were signs of whitening of the mucosa. Onychorrhexis was observed within the nails. The patient did not suffer from any concomitant disease. She did not use any drugs. Two skin biopsy samples from the thumb and trunk were taken for histopathological examination in order to confirm the clinical diagnosis (H + E) (Figure 2).

Topical treatment with mild potent glucocorticosteroids was initiated, but they proved to be ineffective. For this reason, a systemic treatment with methylprednisolone at an initial dose of 16 mg/day was introduced. A significant improvement after 2 months of therapy was observed, however the symptoms recurred while tapering the dose. As soon as histopathological confirmation of lichen nitidus in our department was made, acitretin at an initial dose of 50 mg/day was administered with good

tolerance. The reduction of the skin lesions within 3–4 months was observed. At present, the patient takes the drug at a dose of 10 mg/day (6 months) showing marked improvement (she presents lesions only on her palms) and is being followed in the outpatient clinic.

A typical clinical pattern of lichen nitidus is characterized by the presence of numerous shiny papules which may appear in a variety of shades, from fleshy pink to dark brown, whereas within dark skin they appear as light spots [3, 4]. The papules are 1–2 mm in diameter. Skin lesions are usually not accompanied by any additional symptoms with a sporadic exception of mild pruritus. According to some authors, the Koebner's phenomenon is a constitutive feature of lichen nitidus [5]. On the other hand, there are reports of numerous cases with no observable Koebner's phenomenon [5]. Similarly, in the case of our patient, Koebner's phenomenon did not appear.

Typically, the lesions are localized within a more restricted area and usually within the genitalia, the neck and forearms. The papules do not show a tendency to coalesce. However, occasionally cases of lichen nitidus presenting as a generalized form of the disease have also been reported [3–11]. Only rarely the disease involves hands and feet [12]. There were only few cases published, where the nails were affected showing a distortion with longitudinal furrowing [11, 13]. Lesions on the mucosa of the oral cavity in the form of flat, greyish papules were sporadically reported [11]. Clinical observation revealed that in our patient, lesions were spread on the trunk and limbs, and she also presented symptoms in less typical localizations such as the palms, nail plates and oral mucosa.

Although the aetiology of lichen nitidus remains unknown, the genetic factors have been implied in the lit-

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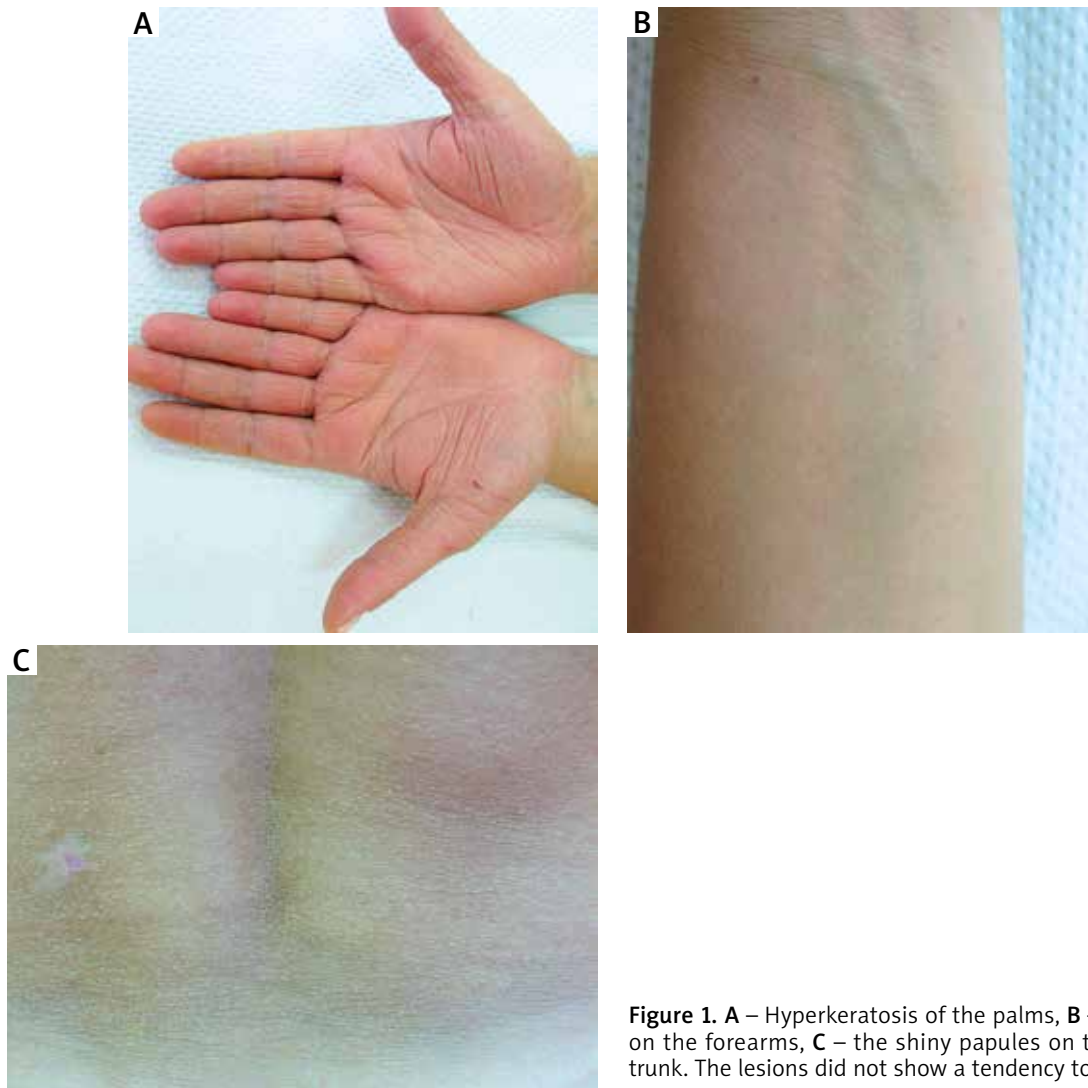


Figure 1. A – Hyperkeratosis of the palms, B – the lesions on the forearms, C – the shiny papules on the patient’s trunk. The lesions did not show a tendency to coalesce

erature. The hypothesis is based on cases in which lichen nitidus was familial [6]. Speculations have been made that the lesions may correlate with Crohn disease and Down syndrome and that they may appear after tattooing [3, 14, 15]. The disease is most common in children and young adults of both sexes, though cases of older patients have also been reported. Importantly, we could not identify any triggering factor in our patient.

The histopathological picture of lichen nitidus is characteristic in both early and fully developed lesions. The most striking feature is dense lichenoid infiltrate filling the space of one to five dermal papillae. The infiltrate is embraced by elongated neighbouring rete ridges and comes closely to the epidermis obscuring the dermo-epidermal junction. The overlying epidermis is thinned with thickened parakeratotic horny layer and hydropic degeneration of basal keratinocytes. The cytooid bodies are frequently seen. In the early stages the infiltrate is composed mostly of the lymphocytes, while in later ones

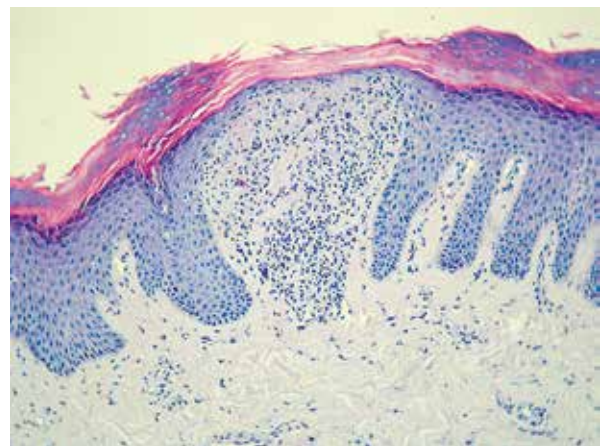


Figure 2. Histopathological examination of the skin biopsy. The dense lympho-histiocytic subepidermal infiltrate within enlarged dermal papillae, under thin epidermis with interface changes and parakeratotic horny layer (H + E, original magnification 200×)

lymphocytic infiltrate is replaced by granulomatous infiltrate with occasional giant cells [16, 17].

Some authors suggest that lichen nitidus can have the form of lichen planus. It is worth noting, however, that the picture of inflammatory infiltrate in each of the two types of disease is different, thus pointing to different underlying immune mechanisms. Specifically, lichen nitidus is characterized by the presence of detectable non-uniform population of inflammatory cells with granuloma formation in later stages, in contrast to lichen planus in which the microscopic picture is more uniform, showing the majority of lymphocytes within infiltrate, mostly T helper cells (CD4+) [18]. Both in lichen planus and in lichen nitidus, the histopathological examination typically reveals not only inflammatory changes, but also the picture of ball claw in which infiltrating *stratum spinosum* penetrates the papillary layer of the skin. In addition, the thinning of the epidermis may also be observed in both [4]. The surface of the papules in both diseases is hyperkeratotic, and also parakeratotic in lichen nitidus while orthokeratotic in lichen planus.

It is not necessary to treat circumscribed forms of lichen nitidus as the symptoms subside within a period from a month to a year. Indications for treatment exist only in chronic, persistent, and generalized forms of the disease, especially if accompanied by itching. Therapeutic options include topical and systemic therapy with corticosteroids. Our patient was treated first with topical drugs which did not lead to any improvement. For this reason, treatment with methylprednisolone was initiated at a dose of 16 mg/day and it was tapered and continued for two months. Many clinicians reported that the administration of the topical form of tacrolimus was found to be effective. Also, the use of acitretin leads to good results when the hands and feet are affected [12]. It has been widely demonstrated that phototherapy is the most beneficial treatment in the generalized form of lichen nitidus. Sunlight, as a natural treatment option, has been empirically shown to be effective [15]. Children and adults respond very well to the therapy by means of narrow UVB rays [4, 8]. Photochemotherapy (PUVA) is yet another possibility for lichen nitidus. The method has been found effective both in generalized forms of lichen nitidus [5] and in those involving the upper and lower extremities [1]. The long distance from residence to the outpatient clinic made the phototherapy not feasible for our patient. That is why the acitretin was started at an initial dose of 50 mg/day. Marked improvement was seen within 3–4 months. The antagonists of H1 receptor are still another method that can be applied in systemic therapy of lichen nitidus.

It has to be emphasized that it is difficult to evaluate the results of the particular treatment methods for lichen nitidus because of the tendency of the disease to spontaneous regression. What is of note regarding the treatment is that there are no randomized controlled trials to assess effectiveness of different forms of treatment.

We present our patient because of the rarity of the generalized form of lichen nitidus with palm involvement in adulthood. Additionally we would like to stress the effectiveness of acitretin in such cases.

Conflict of interest

The authors declare no conflict of interest.

References

1. Szponar A, Borzęcki A, Sajdak-Wojtaluk A, et al. Lichen nitidus of the upper and lower limbs successfully treated with narrow-band UVB11 and PUVA phototherapy. *Borgis-Nowa Medycyna* 2010; 2: 48-51.
2. Wiśnicka B, Reich A, Baran E. Lichenoid eruptions in children. *Post Dermatol Alergol* 2005; 22: 14-22.
3. Botelho LF, Magalhães JP, Ogawa MM, et al. Generalized lichen nitidus associated with Down's syndrome: case report. *An Bras Dermatol* 2012; 87: 466-8.
4. Bilgili SG, Karadag AS, Calka O, et al. A case of generalized lichen nitidus successfully treated with narrow-band ultraviolet B treatment. *Photodermatol Photoimmunol Photomed* 2013; 29: 215-7.
5. Chen W, Schramm M, Zouboulis CC. Generalized lichen nitidus. *J Am Acad Dermatol* 1997; 36: 630-1.
6. Leung AK, Ng J. Generalized lichen nitidus in identical twins. *Case Rep Dermatol Med* 2012; 2012: 982084.
7. Farshi S, Mansouri P. Generalized lichen nitidus successfully treated with pimecrolimus 1 percent cream. *Dermatol Online Med* 2011; 17: 11.
8. Do MO, Kim MJ, Kim SH, et al. Generalized lichen nitidus successfully treated with narrow-band UVB phototherapy: two cases report. *J Korean Med Sci* 2007; 22: 163-6.
9. Al-Mutairi N, Hassanein A, Nour-Eldin O, et al. Generalized lichen nitidus. *Pediatr Dermatol* 2005; 22: 158-60.
10. Kawakami T, Soma Y. Generalized lichen nitidus appearing subsequent to lichen planus. *J Dermatol* 1995; 22: 434-7.
11. Bettoli V, De Padova MP, Corazza M, et al. Generalized lichen nitidus with oral and nail involvement in a child. *Dermatology (Basel, Switzerland)* 1997; 194: 367-9.
12. Cakmak SK, Unal E, Gönül M, et al. Lichen nitidus with involvement of the palms. *Pediatr Dermatol* 2013; 30: 100-1.
13. Munro CS, Cox NH, Marks JM, et al. Lichen nitidus presenting as palmoplantar hyperkeratosis and nail dystrophy. *Clin Exp Dermatol* 1993; 18: 381-3.
14. Wanat KA, Elenitsas R, Chachkin S, et al. Extensive lichen nitidus as a clue to underlying Crohn's disease. *J Am Acad Dermatol* 2012; 67: 218-20.
15. Shan SJ, Xia Z, Chen J, et al. Widespread lichen nitidus associated with tattoo. *Eur J Dermatol* 2013; 23: 123-4.
16. Ackerman AB, Chongchitnant N, Sanchez J, et al. *Histologic Diagnosis of Inflammatory Skin Diseases. An algorithmic Method Based on Pattern Analysis*. Williams & Wilkins, Baltimore 1997; 499-501.
17. Wang WL, Lazar A. Lichenoid and interface dermatitis. In: *McKee's Pathology of the Skin*. Calonje E, Brenn T, Lazar A, McKee PH (eds). Elsevier Saunders, Philadelphia 2012; 219-58.
18. Smoller BR, Flynn TC. Immunohistochemical examination of lichen nitidus suggests that it is not a localized papular variant of lichen planus. *J Am Acad Dermatol* 1992; 27: 232-6.