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## \*CORRESPONDENCE

Akira Shimizu,  
✉ ashimizu@kanazawa-med.ac.jp

RECEIVED 16 August 2024

ACCEPTED 24 September 2024

PUBLISHED 07 October 2024

## CITATION

Taga F, Ono H, Shimada Y and Shimizu A (2024) Case report: Comparative treatment course of generalized lichen nitidus: effectiveness of topical steroids versus maxacalcitol. *J. Cutan. Immunol. Allergy* 7:13665. doi: 10.3389/jcia.2024.13665

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# Case report: Comparative treatment course of generalized lichen nitidus: effectiveness of topical steroids versus maxacalcitol

Fumiaki Taga, Hiroto Ono, Yoko Shimada and Akira Shimizu\*

Department of Dermatology, Kanazawa Medical School, Uchinada, Japan

Lichen nitidus is a chronic skin disease characterized by scattered shiny papules and is common among relatively young individuals. We report a persistent rash covering the body of a 6-year-old boy, unresponsive to prior treatments like moisturizers and topical steroids. Clinical examination revealed small yellow papules predominantly distributed on the trunk, around the eyes, and clustered around the elbow and knee fossa. Histopathological analysis showed a localized infiltrate of lymphocytes and basal epithelial cells, along with giant cells. The overlying rete ridges extended to surround the inflammatory cells, resembling a claw clutching a ball image. Topical treatment with alclometasone dipropionate ointment was more effective compared to maxacalcitol. Remarkably, after about 3 months of treatment, the rash had completely disappeared. We summarized treatments of lichen nitidus in Japan. Maxacalcitol had never been tried. In this report, we demonstrated the effectiveness of the steroid ointment compared to maxacalcitol through the clinical course.

## KEYWORDS

comparative treatment course, generalized lichen nitidus, topical steroids, maxacalcitol, lichen nitidus

## Introduction

Lichen nitidus is a chronic dermatological condition characterized by scattered, shiny papules, typically seen in relatively young individuals. This case report details a subtype known as generalized lichen nitidus, a rare manifestation affecting the entire body area [1]. Since some treatment studies have been reported, there is a need for a standardized treatment approach.

## Case report

A 6-year-old boy was referred to our hospital complaining of a skin rash covering his entire body. He had no family history of similar conditions. About 3 years ago, he

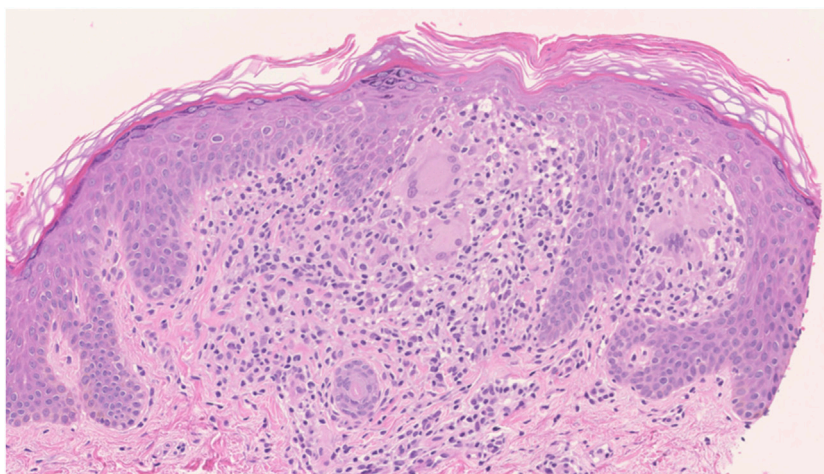


**FIGURE 1**  
Clinical manifestation. Physical examination revealed numerous small yellow papules scattered across the body.

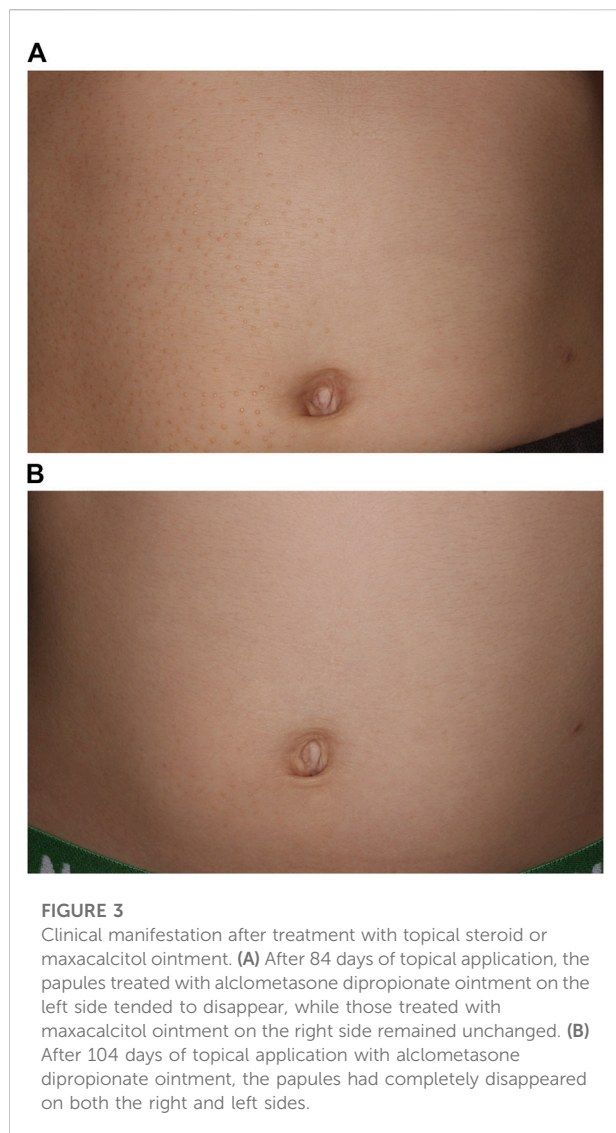
developed a yellowish papular rash on his abdomen and around his eyes, which gradually spread to other parts of his body. He sought treatment from a local doctor and received moisturizers, topical steroids (hydrocortisone butyrate, Locoid ointment) as well as oral and topical antibacterial agents. Although the patient applied it only for a few days, there was no improvement, prompting his visit to our clinic. Physical examination revealed numerous small yellow papules scattered across his body (Figure 1).

These papules were approximately 1 to 2 mm in size, round, and shiny, with no tendency to merge or align with pores. They were particularly concentrated around the eyes on the face, and clustered around the elbow and knee folds on the extremities. No rash was observed on the palms or soles, and the patient reported no subjective symptoms such as itching or pain. Laboratory findings showed no abnormalities. Histopathological examination revealed liquefaction degeneration. In the dermis, there was a localized infiltration of lymphocytes and giant cells. The epidermal processes at the margins extended to surround the inflammatory cells, exhibiting a characteristic “claw clutching a ball” appearance (Figure 2).

Topical treatment was initiated, and upon obtaining consent from the patient and his parents, the medications were applied separately to the right and left sides of the patient’s body. A 25 µg/g maxacalcitol ointment (Oxarol Ointment) was applied twice a day on the right side, while a 0.1% alclometasone dipropionate ointment (ALMETA Ointment) was applied once a day on the left side. Maxacalcitol and 0.1% alclometasone dipropionate ointment were prescribed at the discretion of the outpatient dermatologist. On day 84 of the topical application, the small papules on the left side treated with alclometasone dipropionate ointment began to disappear, whereas the papules on the right side treated with maxacalcitol ointment remained unchanged (Figure 3A). Consequently, the patient was switched to topical alclometasone dipropionate ointment for the entire body. After 104 days of topical application, the rash had almost completely disappeared on both the right and left sides (Figure 3B).



**FIGURE 2**  
Histopathology. The histopathology examination shows rete ridges extending to surround inflammatory cells and giant cells, displaying a “claw clutching a ball” image.



## Discussion

Lichen nitidus is a chronic dermatological condition characterized by the presence of multiple, scattered, shiny papules, typically affecting relatively young individuals. While it is generally asymptomatic, some cases may present with pruritus and the Köbner phenomenon, although these occurrences are sporadic. Generalized lichen nitidus refers to variants where skin eruptions are distributed widely across the body.

Several treatment approaches have been reported for generalized lichen nitidus. The primary treatment modality often cited is topical steroids. However, alternative therapies have shown effectiveness as well. These include natural sunlight therapy, narrow-band ultraviolet B treatment, enoxaparin sodium, pimecrolimus 1% cream, astemizole, 0.03% tacrolimus ointment, PUVA (psoralen combined with

ultraviolet A therapy), interferon alpha, cetirizine dihydrochloride/levamisole combination, and systemic isotretinoin [2–15]. There have been no reported instances of treatment using maxacalcitol ointment.

Based on available data, 37 cases of generalized lichen nitidus have been documented in Japan. The age range of affected patients ranged from 4 to 60 years (mean 19.6 years). Among the cases, 9 out of 24 patients experienced pruritus, while the Köbner phenomenon was observed in 7 out of 37 patients. Treatment strategies predominantly involved the use of topical steroids, administered in 27 patients, some of whom also received oral tranilast. Improvement was noted in 21 of these cases. Other therapeutic approaches included urea, narrowband-UVB therapy, cephalantin, Jumihaidokuto (a Kampo medicine), and a 10% salicylic acid-containing ointment, all of which yielded positive results. Interestingly, there were 3 cases where no treatment was administered, yet all showed improvement. In our case, we observed improvement in the skin rash at sites treated with topical steroids, while no change was noted in areas treated with topical maxacalcitol ointment. This clear disparity in treatment outcomes between topical steroids and maxacalcitol ointment underscores the effectiveness of the former in managing generalized lichen nitidus.

While some reported cases have shown mild improvement with topical steroids, our experience underscores the efficacy of topical steroids as the initial treatment choice for generalized lichen nitidus. This case demonstrates successful management of the condition in a child using topical steroids, particularly alclometasone dipropionate ointment, compared to maxacalcitol ointment. Nonetheless, further research and additional case studies are necessary to establish standardized treatment protocols for this rare subtype of lichen nitidus.

In conclusion, this case report highlights the challenges encountered in managing generalized lichen nitidus, a rare subtype of lichen nitidus characterized by widespread skin involvement. Despite previous treatments failing to yield improvement, our patient experienced significant resolution of symptoms with topical alclometasone dipropionate ointment, demonstrating its efficacy in managing this condition. Conversely, maxacalcitol ointment showed limited effectiveness, emphasizing the superiority of topical steroids in treating generalized lichen nitidus. The disparity in treatment outcomes observed in this case underscores the need for further research to establish standardized treatment protocols for this rare dermatological condition. While various treatment modalities have been explored, including alternative therapies and systemic agents, our experience supports the use of topical steroids as the initial treatment choice. However, additional studies and case reports are essential to validate these findings and optimize therapeutic strategies for patients with generalized lichen nitidus. In summary, this case report contributes to the

growing body of evidence regarding the management of generalized lichen nitidus and emphasizes the importance of tailored treatment approaches guided by clinical response. By sharing our experience, we aim to enhance understanding and improve outcomes for patients afflicted with this challenging dermatological condition.

## Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

## Ethics statement

Written informed consent was obtained from the individual(s) for the publication of any potentially identifiable images or data included in this article.

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## Author contributions

All authors participated in the design, interpretation of the studies and analysis of the data and review of the manuscript; AS and FT wrote the manuscript. All authors contributed to the article and approved the submitted version.

## Funding

The author(s) declare that no financial support was received for the research, authorship, and/or publication of this article.

## Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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