

Median Nail Canaliform Dystrophy in Association with Retinoid Therapy

Laura Agnese Pauliņa¹, Alise Balcerē²

¹ Faculty of Medicine, Riga Stradiņš University, Riga, Latvia

² Department of Dermatology and Venereology, Riga Stradiņš University, Riga, Latvia

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Corresponding author: Laura Agnese Pauliņa, Faculty of Medicine, Riga Stradiņš University, LV-1007 Riga, Latvia.
E-mail address: paulinalaura@inbox.lv

Introduction

Median nail canaliform dystrophy (MNCD) is a rare nail disorder. Clinically MNCD is characterized by longitudinal midline nail plate splitting with canal formation and laterally extending ridges that altogether resembles an inverted fir-tree shape. This condition most commonly affects one or both thumbs [1]. Similar nail changes, though typically without canal formation, could be also seen due to chronic nail trauma, such as habitual nail picking, which is an important and common differential diagnosis when nail changes across midline occur [2]. With this case report we want to improve awareness of MNCD after isotretinoin use and inform of our approach and results for managing MNCD.

Case Presentation

A 21-year-old woman presented to a dermatologist with complains of painless lesions on both thumbs (Figure 1A) that had appeared approximately four months after initiation

of oral isotretinoin therapy. Doses of 20 mg and 30 mg had been used alternately.

Onychoscopy of the lesions showed median longitudinal splitting across midline of both thumbs with central transversal furrows and splits resembling a fir-tree pattern. Clear canal formation was observed only on the right thumb. On both nails lunula appeared enlarged (Figure 1B). No surrounding erythema or inflammation was observed. The patient denied having a recent nail trauma or having a habit of biting or picking nails. According to these clinical findings, a diagnosis of MNCD was made.

As MNCD has been previously associated with retinoid use, isotretinoin cancelation was proposed [3]. However, our patient was willing to continue the therapy with isotretinoin as she considered the experienced acne improvement prior to nail changes. Therefore, a lowered dosage of isotretinoin to 10 mg per day and additional topical tacrolimus ointment for the nails was prescribed.

The follow-up visit was scheduled after two months, when the patient admitted that the prescribed topical tacrolimus



Figure 1. (A) Median nail canaliform dystrophy on both thumbs after 4 months of isotretinoin therapy. (B) Onychoscopy of the thumbs with better visualization of typical fir-tree shape changes across the midline of the nail plate and distinctive canal formation on one of the thumbs; enlarged lunula—4 months of isotretinoin therapy. (C) Outgrowth of healthy nails after 2 months of lowered isotretinoin therapy dosage to 10 mg per day. (D) Onychoscopic view 2 months after lowering isotretinoin dose.

ointment had not been applied and only 10 mg isotretinoin once daily was taken. Nevertheless, at the follow-up a healthy nail regrowth as well as maintained good acne control was observed, and the patient was generally satisfied (Figure 1, C and D).

Conclusions

Retinoids, having an anti-proliferative effect on cells, are commonly used drug in dermatology. Among many unwanted side effects, nail changes such as MNCD can appear [4]. Diagnosis of this condition is made clinically, based on its typical fir-tree shape nail changes. The treatment of MNCD is still not well established although most commonly topical 0.1% tacrolimus ointment and retinoid drug cancellation have been proposed [1]. Our case adds that it is possible to regain healthy nails by only lowering the dosage of retinoid drug. No topical treatment for nails in our case was used.

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