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2. Median canaliform nail dystrophy

Median canaliform nail dystrophy is a disorder characterized by a longitudinal depression or crack appearing in the nail plate, often accompanied by several lateral projections giving the appearance of a fir tree. Patients with this disorder typically present with a crack or groove beginning at the proximal nail fold and extending for part of or the entire length of the nail. The thumb is more often affected than the other digits, and the involved nails often display enlarged lunulae.¹ Although typically not indicative of systemic disease, canaliform nail dystrophy can cause considerable discomfort and functional impairment.²

Diagnosis and cause

The presentation of median canaliform nail dystrophy is distinctive, and diagnosis is often based solely on clinical findings. Recognition of median canaliform nail dystrophy is important for family physicians because this condition is often misdiagnosed as onychomycosis. Therefore, recognition of this condition can avoid the unnecessary prescribing of antimycotic agents.³ The differential diagnosis for canaliform nail dystrophy should include lichen planus and nail psoriasis, as longitudinal splitting of the nail might also be associated with these conditions.¹ Tumours or growths in the nail matrix might also cause splitting of the nail plate.⁴ Habit-tic deformity, characterized by a depression of the nail plate caused by repeated rubbing or scratching of the proximal nail fold, can also resemble median nail dystrophy.⁵ However, nails affected by this condition display multiple transverse ridges and lack the characteristic longitudinal splitting seen in median canaliform dystrophy.

For our patient, and for most patients, the cause of median nail dystrophy is unknown. Repeated pressure exerted on the nail bed is the most common identifiable cause.¹ In fact, habitual use of personal data assistants has been associated with median nail dystrophy, likely due to repeated pressure exerted on the nail bed of the thumbs of individuals using these devices.⁶ Family physicians will likely see a rise in patients presenting with nail dystrophies as personal data assistants increase in popularity.

Nontraumatic causes of median canaliform nail dystrophy have been reported. In several case reports, canaliform nail dystrophy was suspected to be caused by isotretinoin therapy.^{5,7,8} Familial cases of median nail dystrophy have also been reported.²

Treatment

Treatment of median canaliform dystrophy is often unnecessary. Affected nails typically return to normal on



their own,¹ or following discontinuation of medication^{7,8} or traumatic activity.⁶ Although not typically recommended, median nail dystrophy has been successfully treated with topical ointments⁹ or triamcinolone acetonide injected directly into the proximal nail fold.¹⁰

Conclusion

Nail plate abnormalities are common and can have a number of different causes. Recognition of the distinctive clinical features of median canaliform nail dystrophy will improve the accuracy in clinical diagnosis of nail plate abnormalities and reduce unnecessary prescribing of antimycotic drugs.

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Competing interests

None declared

References

- Tosti A, Piraccini BM. Biology of nails and nail disorders. In: Wolff K, Goldsmith LA, Katz SI, Gilchrist B, Paller A, Leffell D, editors. *Fitzpatrick's dermatology in general medicine*. 7th ed. New York, NY: McGraw-Hill; 2008. p. 778-94.
- Sweeney SA, Cohen PR, Schulze KE, Nelson BR. Familial median canaliform nail dystrophy. *Cutis* 2005;75(3):161-5.
- Fletcher CL, Hay RJ, Smeeton NC. Observer agreement in recording the clinical signs of nail disease and the accuracy of a clinical diagnosis of fungal and non-fungal nail disease. *Br J Dermatol* 2003;148(3):558-62.
- Verma SB. Glomus tumor-induced longitudinal splitting of nail mimicking median canaliform dystrophy. *Indian J Dermatol Venereol Leprol* 2008;74(3):257-9.
- Griego RD, Orenge IF, Scher RK. Median nail dystrophy and habit tic deformity: are they different forms of the same disorder? *Int J Dermatol* 1995;34(11):799-800.
- Olszewska M, Wu JZ, Slowinska M, Rudnicka L. The 'PDA nail': traumatic nail dystrophy in habitual users of personal digital assistants. *Am J Clin Dermatol* 2009;10(3):193-6. DOI:10.2165/00128071-200910030-00006.
- Bottomley WW, Cunliffe WJ. Median nail dystrophy associated with isotretinoin therapy. *Br J Dermatol* 1992;127(4):447-8.
- Dharmagunawardena B, Charles-Holmes R. Median canaliform dystrophy following isotretinoin therapy. *Br J Dermatol* 1997;137(4):658-9.
- Kim BY, Jin SP, Won CH, Cho S. Treatment of median canaliform nail dystrophy with topical 0.1% tacrolimus ointment. *J Dermatol* 2010;37(6):573-4. DOI:10.1111/j.1346-8138.2009.00769.x.
- Grover C, Bansal S, Nanda S, Reddy BS. Efficacy of triamcinolone acetonide in various acquired nail dystrophies. *J Dermatol* 2005;32(12):963-8.