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Case Report

Median Canalicular Dystrophy of Heller: A Rare Presentation

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ABSTRACT

Median Canaliform Dystrophy is a rare nail disorder characterized by midline longitudinal ridging or splitting with canal formation in the nail plate of one or both the nails of the thumbs. It is an acquired condition that mimics habit-tic deformity, resulting in a temporary defect in the nail matrix and cuticle. Treatment is often prolonged and unsatisfactory, which many a times is challenging for a dermatologist. Some clinicians have used topical tacrolimus (0.1%) ointment and tazarotene (0.05%) ointment successfully. Psychiatric opinion should be taken when associated with the depressive, obsessive-compulsive, or impulse-control disorder. We report the case of a 16-year-old male presenting with median canaliform dystrophy of Heller affecting nails of both the thumb nails and two finger nails, respectively.

KEYWORDS: Median, Canalicular Dystrophy, Longitudinal Ridging

INTRODUCTION

Median Canaliform Dystrophy of Heller is a rare entity characterized by ridge or canal formation in the midline of the nail plate of one or both the thumb nails.[1] The pathogenesis is hypothesized to be intentional trauma by pushing back the cuticle and proximal nail fold (habitual tic)[2] or, result of temporary defect in the nail matrix following dyskertatinisation or focal infection.[3]Oral retinoid use has been found in few cases to cause median canalicular dystrophy of Heller.[2] Most of the cases of median canalicular dystrophy are idiopathic, and the condition revert to normal after a period of months to years.[2,3]It rarely involves toe and other finger nails. It can cause major cosmetic concern to the patient. The treatment includes avoidance of repetitive nail trauma though behaviour counseling[3] or topical tacrolimus 0.1% ointment with significant improvement in nail plate appearance.[2] However, the treatment for Median Canalicular Dystrophy is far from satisfactory.[2] Here, we report a case of 16-year-old male with a habit of biting the thumb nails while in stress diagnosed as median nail dystrophy.

CASE REPORT

A 16-year-old male presented to skin outpatient department with complaints of midline depression deformity of both thumb nails and two fingernails and was concerned about the cosmetic appearance. History of biting of thumb nails during stress was present. No history of use of oral retinoids or other medications, or history of contact with irritants or allergens was present. He denied any family history of nail disorders or psychiatric illness. On examination, single median longitudinal groove with multiple transverse ridges aligned in a fir tree pattern, present over both the thumb nails and two fingernails. The median groove extended from the proximal nail fold up to the distal nail edge. Lunula seemed to be enlarged in size. Rest other fingers and toe nails were normal. Systemic examination was normal. Diagnosis of median nail dystrophy was made on clinical basis. Histopathology was

not done as there is no additional advantage in treatment. He was put on 0.1% tacrolimus ointment topically at night, with the advice not to bite nails. Psychiatric counselling was sought; counselling was offered to the patient.

DISCUSSION

Median Canaliform Dystrophy of Heller, also known as Solenonychia, dystrophia unguis mediana canaliformis, and nevus striatus unguis[4], is a condition of the nail in which longitudinal splitting toward the nail edge or extends laterally from the central canal giving the appearance of an inverted fir tree or Christmas tree.[5] Intentional trauma in the form of pushing back of cuticle and proximal nail fold (habitual tic), oral retinoid use, subungual skin tumors, etc. have been implicated in its causation. The condition is usually symmetrical and most often affects the thumbs, sometimes other fingers or toes may be involved.[4]

In 2005, Sweeny et al. have reported a familial clustering of cases of median nail dystrophy.[5] Probably, the condition results from a temporary defect in the matrix that interferes with nail formation. Trauma has also been implicated with oral retinoid use.[3] In our case, habitual picking maybe responsible for causing Median Canalicular Dystrophy. The pathogenesis is hypothesized to be intentional trauma by pushing back the cuticle and proximal nail fold (habitual tic).[2] The formation of longitudinal grove with splitting of nail plate occurs due to the absence of keratinocytic adhesions within the nail matrix along with dyskeratosis, thus leading to weaker tensile strength.[3]

The other conditions in which a longitudinal nail defect have been reported are habit tic deformity, digital mucous cyst (synovial cyst), lichen striatus, nail-patella syndrome, pterygium, Raynaud's disease and trachyonychia.Subungual skin tumors such as glomus tumors, myxoid tumors, can also cause longitudinal grooving, lifting of the nail plate from the bed resulting in a tube-like structure (solenos) distal to it.[3]

The management of median nail dystrophy is a challenge as the therapy is not consistently successful. If a patient has impulse control disorder orobsessive-compulsive disorder and suffers from habitual tic, a psychiatrist opinion should be sought and necessary treatment should be started before irreversible nail damage sets in. Recent treatment modality includes topical application of 0.1% tacrolimus ointment once daily without occlusion. It is a promising treatment modality as it inhibits calcineurin which interferes with the inflammatory component.[3]Injecting triamcinolone acetonide into the dystrophic nail is also an option but is difficult to tolerate and has numerous adverse effects. Madke et al. used topical tazarotene 0.05% ointment which acts by normalizing the process of keratinization. We report this case to highlight the fact that often in such cases, the history of 'habit tic' may not be acknowledged by the patient.

CONCLUSION

Median Dystrophy of Heller continues to intrigue dermatologists by its striking morphology, difficult treatment and cosmetic concern.

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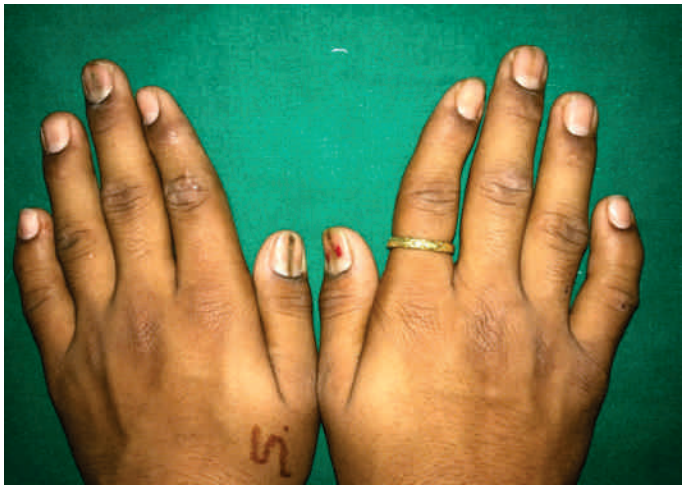

Figure1: Median longitudinal groove in fir-tree pattern involving both the thumbs and middle fingernails

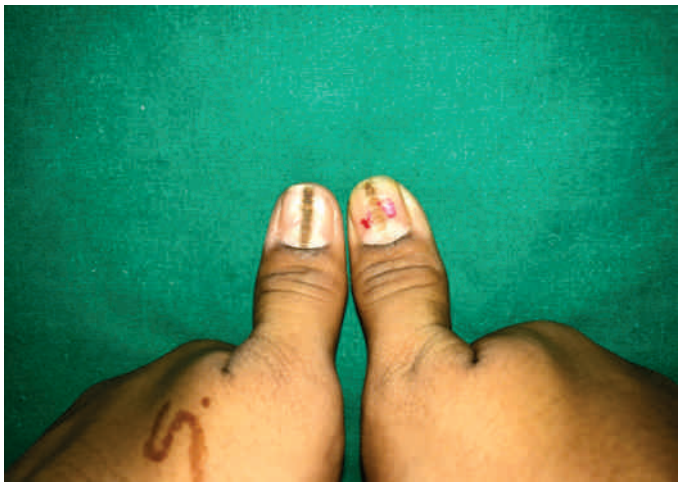

Figure 2: Both the thumbnails showing inverted fir tree-like ridging