Short Communication

Surgical Management of Retronychia

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Abstract

Retronychia is an uncommon type of ingrown nail characterized by ingrowing of the proximal nail plate into the proximal nail fold (PNF), inciting cycles of inflammation. The condition can be symptomatic due to swelling and inflammation of the PNF, but most often it is noticed because of a proximal thickening of the nail plate and the failure of nail to grow distally. It usually affects the great toenails of young females, commonly due to recurrent trauma and footwear-related issues. This condition is difficult to recognize in the initial stages and often requires surgical management when the nail plate becomes significantly impacted. We present a case of retronychia in a 24-year-old lady, who was treated surgically. The report serves to highlight the diagnostic and therapeutic approach in such cases.

Keywords: Chronic paronychia, proximal ingrown, total avulsion, ultrasound

Learning Points

- Retronychia is an uncommon type of ingrown nail characterized by ingrowing and inflammation of the proximal nail fold, discoloration and thickening of nail plate, and slow or absent nail plate growth.
- Great toenails are most frequently involved.
- Associated overlapping signs and symptoms lead to misdiagnosis and inappropriate management.
- Early cases can be managed conservatively, although surgical nail plate avulsion is curative, especially in advanced cases.

Practice Points: Surgical Management of Retronychia

The term retronychia, derived from the French terms "retro" (growing backwards) and "onychia" (inflammation of nail folds), denotes a condition first described by de Berker and Rendall.[1] It is characterized by proximal ingrowing of the nail plate into proximal nail fold (PNF) occurring typically in adult females.[2] It is a less recognized form of ingrown nail and just like other forms, it affects the great toenails more commonly.[3] With less than 150 published cases, the entity is not commonly diagnosed, even though the clinical features are typical with an inflamed PNF, slow or absent nail plate growth, proximal thickening of nail plate, xanthonychia or even onychomadesis in severe cases. Mild cases of retronychia can be helped with topical steroid therapy,[3] although severe cases require surgical correction.[4] We report a case of a 24-year-old lady with pain and inflammation of right great toenail which was diagnosed and surgically treated as retronychia.

A young lady, beautician by profession, presented with pain, discoloration, and thickening of right great toenail bothering her for the past 6 months. She had difficulty in putting on shoes due to the thickened toenail and associated deep-seated pain. She also complained of pus discharge off and on and slow growth of the nail.

On examination, there was tenderness and discoloration of the proximal nail fold with thickening and heaping up of the nail plate [Figure 1A and B]. The changes were more pronounced proximally and the nail was quite tender. It was discolored distally and thickened proximally with a peculiar lamellar thickening, suggesting onychomadesis with subsequent new nail plate formation. A clinical diagnosis of retronychia was made and radiological

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Access this article online

Quick Response Code:

Website: www.jcasonline.com

DOI: 10.4103/JCAS.JCAS_248_20

How to cite this article: Grover C, Gaurav V. Surgical management of retronychia. J Cutan Aesthet Surg 2022;15:332-4.

evaluation was done. Digital X-ray showed normal bony structure but abnormally thickened nail plate. High frequency ultrasound examination confirmed multiple nail plate structures piling up beneath the proximal nail fold on sagittal view.

After confirmation of diagnosis, a total avulsion of the symptomatic right nail plate was planned and explained to the patient, with a written informed consent being taken. Under aseptic conditions, a proximal digital block was administered using 2% lignocaine without adrenaline. The great toe was exsanguinated with a gauze strip tourniquet which was tied at the base of the digit to achieve an avascular operating field. A proximal avulsion of the thickened and impacted nail plate was done, which could be detached with great difficulty [Figure 1C]. Examination of the proximal end of the avulsed nail plate showed multiple layers of nail plate piled up on each other [Figure 1D]. The exposed clean nail bed was subsequently covered with nonadherent dressing, and postoperative antibiotics and analgesics were prescribed. The wound healed over the further 2 weeks with regrowth of normal nail plate over future months with a cosmetically acceptable outcome. Histopathological examination of the avulsed nail plate confirmed a lamellar nail plate structure without any fungal elements. No recurrence or spicule formation was reported over a further 6-month follow-up.

Retronychia presents with a clinical triad of interrupted nail growth, xanthonychia, and subacute paronychia with thickened proximal nail plate.[5] Two clinical stages have been described. Early stage is characterized by mild signs and symptoms, whereas the late stage is associated with severe symptoms.[4] It results from an interplay of three related pathophysiological factors, viz., malalignment of the nail matrix with the nail plate, cessation of nail growth, and dysadhesion between the nail plate and nail bed, thus sharing a common pathophysiology with Beau's lines and onychomadesis.[4] This leads to cycles of inflammation and consequent granulation tissue. Altered biomechanics of

Figure 1: A. Dorsal view of the right great toenail showing xanthonychia, thickening, and increased longitudinal curvature. Note the prominent hyperpigmentation of the proximal nail fold. B. Lateral view demonstrating the heaped-up nail plate. C. Proximal total nail avulsion of the impacted nail plate shows multiple layers. D. The avulsed nail plate more clearly seen to show multiple layers. The underlying nail bed is healthy but distally epithelialized

the foot associated with congenital malalignment of the great toenail, reflex hyperextension of the hallux, Egyptian foot type as well as repetitive trauma from dancing, hiking, running, and tight footwear exerts pressure on the distal free edge of the toenails and predisposes to retronychia. Though it can be diagnosed clinically, recently, diagnostic criteria based on ultrasonographic comparison with the contralateral healthy toenail have been proposed; hence, they are not very useful when bilateral toenails are involved. The associated overlapping signs and symptoms lead to misdiagnosis and inappropriate management as they are easily confused with other causes of chronic paronychia, chromonychia, and tumors of nail unit.

Management includes correction or modification of the predisposing factors to avoid recurrence, in addition to specific measures. Conservative measures can be adopted for early stages but recurrence is common. Surgical intervention has been carried out on the proximal as well as on both proximal and distal areas of the nail. Nail avulsion, including partial proximal and total nail avulsion, is the most commonly used surgical technique along with debridement of excess granulation tissue. In cases of distal embedding of nail plate leading to retronychia, Howard-Dubois or super U procedures might be useful.

We present this case to highlight the clinical features and management of retronychia to make clinicians aware of the same.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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