



DOUBLE NAIL- POLYNYCHIA

Dermatology

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ABSTRACT

Nail disorders are acquired or congenital. Nail trauma is a major cause of acquired disorders like discolouration, splitting, dystrophy and deformity of the affected nail. A dislodging or split of the nail matrix can result in polynychia or multiple nails.. Here we present a case of a 13 year old who had a left thumb nail trauma at the age of 5 years, after which she developed two nails on the affected finger.. We are reporting this case for its interesting morphology and rare occurrence.

KEYWORDS

Polyonychia, Split nail matrix, Double nail

Introduction

The nail is an interesting organ of the human body as according to most people, it's importance is cosmetic only and lies in it's upkeep and presentation. Presentable nails are always considered to be a sign of good health and living conditions. Any deviation from this results in considerable trauma for the growing adolescent. They solicit relief and are prepared to undergo even painful procedures for an appealing presentation. The chief function of the nail in man, though is that of protection. It protects the terminal phalanx and the fingertip. Other uses also include, sensory perception manual dexterity and scratching. Post traumatic nail deformity or disfigurement is more often cosmetically unacceptable, especially if persistent. Here we describe a patient with trauma induced polyonychia .

CASE REPORT

A 13 year old girl presented to our Paediatric dermatology OPD with two distinct nails that had grown on her left thumb. At the age of five years, she sustained a heavy impact trauma to her left thumb. Three months later she noted another nail growing over her normal nail on that digit. It was asymptomatic and the growth mirrored the original, except for it's angulated presentation. The original nail had maintained it's growth too. This unique presentation prompted the parents to seek multiple consults. The child had also undergone a surgical removal of the extra nail earlier. But, the nail growth was seen again within a year. On examination, the left thumb showed two nail plates that were asymptomatic, growing one above the other, but also had been spaced away from each other at the proximal nail matrix. The upper nail plate, measured around 2cm x 3cm, bilaterally curved inwards, but angulated against gravity showed hyperkeratosis and nail debris only. The nail adhered to the nail bed measured around 2cmx3cm and had longitudinal ridging with an almost onychogryphosis or claw like nail growth and nail dyschromia. A healed cutaneous traumatic groove was seen running along the digit from the dorsum to the palmar aspect. [Fig1 & 2] The other nails and cutaneous examination was found to be normal.



Figure 1

Figure 2

X-ray of the affected distal phalanx revealed two separate nail plates placed vertically one above the other with no underlying bony

deformity [Fig 3]. Potassium hydroxide mount and fungal culture of the discoloured nail did not show any fungal growth. The patient has been advised for surgical removal of the nail plate and matrix



Figure 3

Discussion

Acquired nail deformities are more commonly encountered than congenital nail disorders[1]. Acute side effects of trauma to nails can lead to the formation of pain, subungual hematoma, shedding of nail and splinter hemorrhages[2]. Delayed effects of trauma can include split ridges, pterygium, hook nail, pigment bands, and ectopic nails (onychoheterotopia) [3].

Dawber RPR et al. has mentioned split nail to be the most common chronic deformity following trauma with sharp or heavy impact objects. This can divide the nail matrix and induce growth of supernumerary nail plates. They have also described a similar case following longitudinal nail matrix biopsy[4]. Lade NR et al. has reported a case of polyonychia in which two separate nail plates are formed adjacent, over single nail bed[1]. In our case, the nail plates are formed one above the other, with the lower nail plate present over the nail bed, due to the downward displacement (implant) of a part of nail matrix post trauma.

The main differential diagnosis would be ectopic nail, wherein growth of nail like tissue takes place in a different location other than nail bed [5]. Congenital ectopic nail seen in Pierre Robin syndrome[6] and an acquired form is trauma induced. Congenital onychodysplasia can also resemble polyonychia, which is characterised by nail dysplasia with underlying bone deformity[7][8].

Complications like Pain, irritation and interference with routine activities can be present in both ectopic nail [9] and split nail. In our

patient, the cosmetic disfigurement resulted in a negative and made her seek medical advice.

Surgical excision of the nail and its entire matrix is the treatment of choice for both ectopic nail [10] and polyonychia. Persistence of the split nail matrix either due to lack of awareness of nail anatomy by the operating surgeon or an incomplete removal results in a persisting or a recurring nail plate inspite of intervention as the proximal nail matrix is what contributes to the growth of the nail plate.

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