



TRAUMATIC THUMB NAIL INJURY IN A 6-YEAR-OLD BOY AND SUBSEQUENT HEALING PROCESS: CASE STUDY

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INTRODUCTION

Early many fingertip injuries in childhood involve the nail bed. Traumatic injuries to the thumbnail can be challenging to manage, especially in young children. The thumb plays a crucial role in hand function and any damage to the thumbnail can affect its overall functionality (Cardoso & Szabo, 2010). In this case study, a 6-year-old boy who sustained a traumatic injury to his right thumb nail due to being pressed by a car door while closing the car door. The thumbnail injury characterized by discoloration and shedding.

OBJECTIVE

This case report aims to provide insights into the management and healing process of traumatic thumbnail injuries in a young child and the activities that the paediatric can perform despite the challenges of a damaged thumbnail.

METHODS

This study employed a longitudinal observational approach to assess the progression of a thumbnail injury in a 6-year-old boy over a period of three months. The study focused on evaluating changes in nail color, shape, and the subject's functional abilities during the observation period.

Conservative Management Plan: Based on the initial assessment, a conservative management plan was devised, which included regular monitoring of the injury without any invasive interventions.

Data Collection: Data regarding nail color (e.g., presence of discoloration, changes in hue), nail shape (e.g., presence of deformities, irregularities), and functional abilities (e.g., ability to grip objects, play musical instruments) were collected during each assessment session with pictures and video.

Data Analysis: The collected data were documented to identify trends and patterns in the progression of the thumbnail injury over the three-month observation period. Any notable changes in nail color, shape, or the subject's functional abilities were documented and compared across assessment sessions.

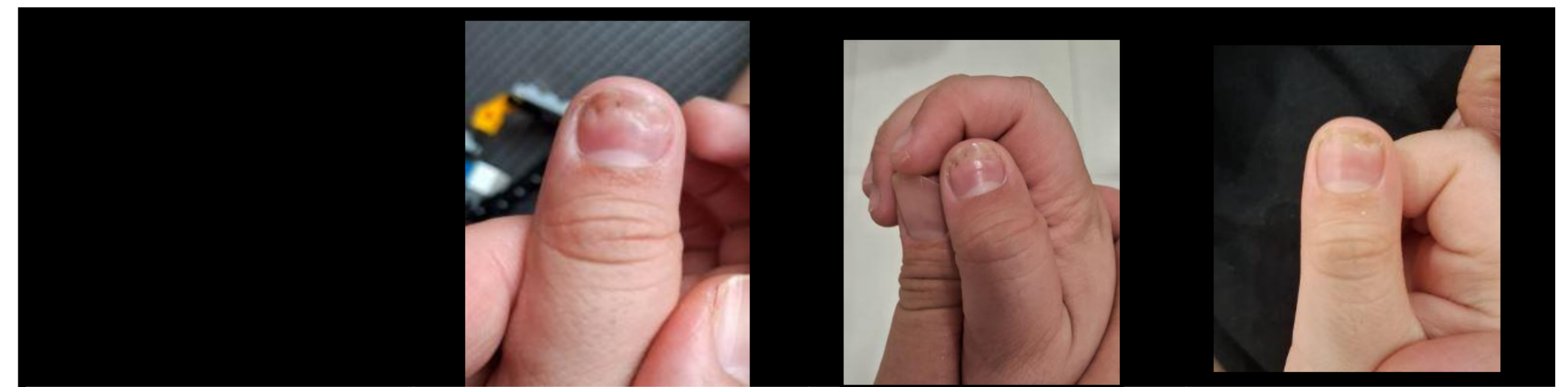
Ethical Considerations:

This study adhered to ethical principles outlined by the Declaration of Helsinki. Informed consent was obtained from the participant's legal guardian, and the participant's privacy and confidentiality were maintained throughout the study.

RESULTS

Table 1: Assessment findings on the injured nail.

Assessment	Day 1 (23-8-23)	Day 6 (29-8-23)	Day 58 (20-10-23)	Day 64 (26-10-23)
Nail Discoloration	Dark Red (Subungual hematoma)	Black (Subungual hematoma)	Yellowish at the deformity part	Yellowish at the deformity part
Nail Shape Deformity	No	Onycholysis	Irregular nail edge with Onycholysis	Irregular nail edge with Onycholysis
Nail Integrity	Intact	Intact	Complete avulsion of injured nail	Intact
Pain and Tenderness	Severe pain	Tenderness and pain upon palpation	No tenderness; Sensitive upon palpation	No tenderness or pain
Sensation and Circulation	Sensation present; mild numbness; Capillary refill normal and only can observe on top part of the nail	Mild Numbness; Circulation around the nail is good	Sensation present; Circulation around the nail is good	Sensation present; Circulation around the nail is good
Functional Impairment and activities	Movement of distal interphalangeal joint were possible, but limited due to pain. Refuse to grip or use the right hand.	No functional impairment. Able to play ukulele, Swim, pencil coloring, badminton	No functional impairment. Able to play ukulele with adjustment, Lego bricks, Swim, pencil coloring, badminton	No functional impairment. Able to play ukulele with adjustment, Lego bricks, Swimming, pencil coloring, badminton



Assessment	Day 85 (16-11-23)	Day 92 (23-11-23)	Day 104 (5-12-23)
Nail Discoloration	Yellowish at the deformity part	Yellowish at the deformity part	Yellowish at the deformity part
Nail Shape Deformity	Irregular nail edge with Onycholysis	Irregular nail edge with Onycholysis	Irregular nail edge with Onycholysis
Nail Integrity	Intact	Intact	Intact
Pain and Tenderness	No	No	No
Sensation and Circulation	Sensation present Capillary refill time <2 sec	Sensation present Capillary refill time <2sec	Sensation present Capillary refill time <2 sec
Functional Impairment and activities	No functional impairment. Able to play ukulele, Lego bricks, swimming, pencil coloring, badminton	No functional impairment. Able to play ukulele, Lego bricks, swimming, pencil coloring, badminton	No functional impairment. Able to play ukulele, Lego bricks, swimming, pencil coloring, badminton

DISCUSSION & CONCLUSION

The child was treated at home with cold compress initially. He was then brought to clinic to after day 3. Physician had given advise for conservative management such as protecting the injured thumb, promoting nail growth and healing, and managing pain and discomfort. No medication or dressing given. During the observation period, the injured thumbnail gradually started to shed and a new nail began to grow. The shedding process was accompanied by discoloration and some discomfort for the child. The injured nail was shedded (Onychomadesis) during swimming activities at the pool. The child's progress was monitored and it was found that despite the injury, the boy was able to engage in various age-appropriate activities, albeit with some modifications to accommodate the injury despite the challenges of a damaged thumbnail, the child was able to perform daily activities without significant limitations. The authors concluded that conservative management was effective in managing the traumatic thumbnail injury and promoting healing.

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