



## CASE REPORT

# Nott'a Nodule? Recurrent Congenital Trigger Finger: Case Report

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## Abstract

“Congenital” or pediatric trigger thumb is a rare entity, and its presentation beyond school age is even rarer. Its timely diagnosis and treatment is crucial due to the functional limitations in a developing hand as well as the possible sequelae. We present the case of a 9-year-old patient with a classic case of trigger thumb, who underwent surgical release at 3 years of age, presenting recurrence, requiring re-exploration and surgical release with adequate postoperative evolution.

## Keywords

Trigger, Finger, Congenital, Hand, Notta, Nodule

It's etiology is controversial, it has been reported as an acquired condition, so the name congenital trigger thumb is no longer considered correct. The term “pediatric” trigger thumb is considered more appropriate [2-4].

Classically, a thickened intratendinous nodule known as “Notta's nodule” is present at the level of the metacarpophalangeal joint or volar base of the thumb, which causes a size discrepancy between the long tendon of the thumb and the A1 pulley [1-3,5,6].

## Case Report

A 9-year-old female patient was evaluated in the outpatient clinic of the plastic and reconstructive surgery service with a classic case of trigger thumb that had been present for 6 years. The mother reported that she was diagnosed in her first year of life and was surgically released at three years of age, with partial improvement and recurrence within the first year. Physical examination showed the thumb of the right hand, locked in a flexed position that suddenly straightens with passive extension and a painful mass on palpation in the palmar region of the base of the finger, which resembles a firm nodule proximal to the fold of the metacarpophalangeal joint (MCPJ) of the thumb.

## Introduction

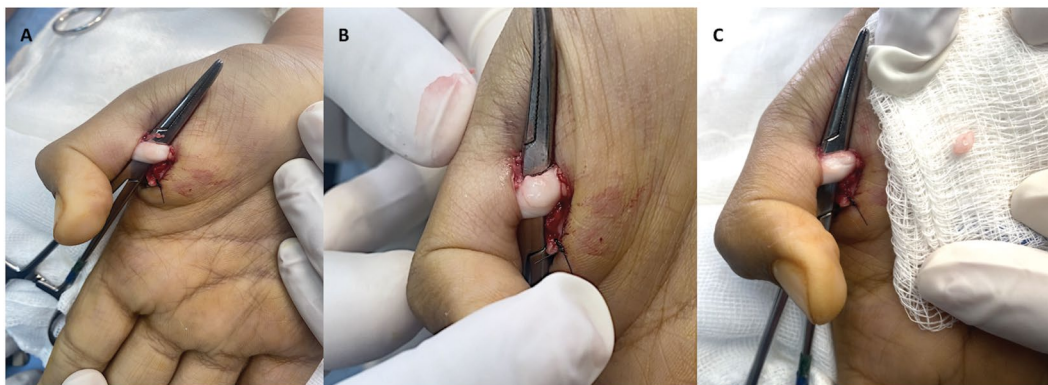
Pediatric or congenital trigger thumb is a pathology where the clinical picture consists of a fixed contraction in flexion “triggering” of the thumb at the height of the interphalangeal joint, with the inability to extend completely or correctly with passive or active movement [1-4]. It is considered a rare pathology, its prevalence goes around 3 of 1000 live births [2-4]. It presents between 6 months to 2 years of age (in some cases up to 4 years), resolving spontaneously in half of these case [1,5].



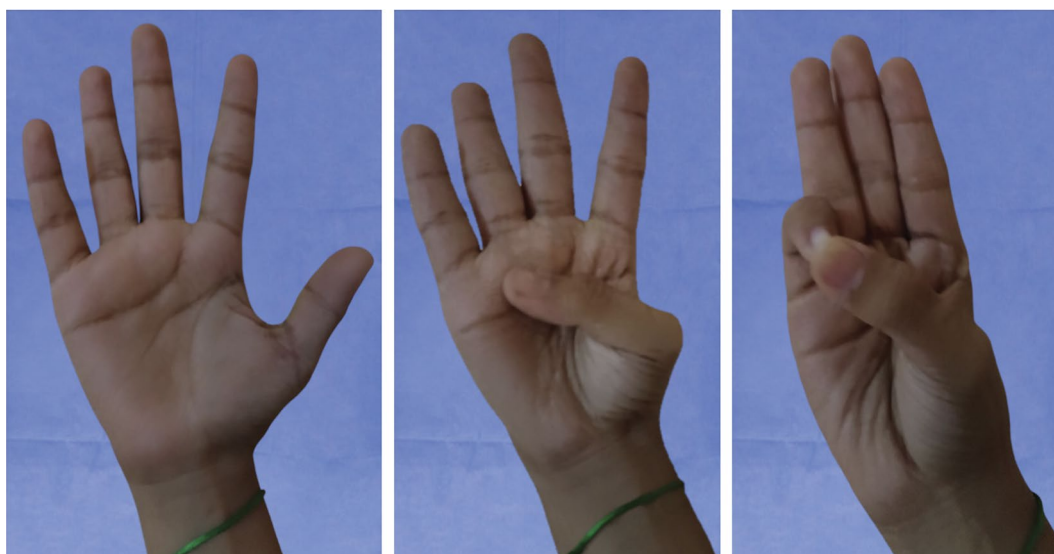
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**Figure 1:** (A) Flexor pollicis longus tendon exposure; (B) Notta's nodule; (C) A1 pulley and Notta's nodule resection with adequate excursion of the tendon to flexion and extension.



**Figure 2:** Outcome at one-year follow-up, with adequate passive and active flexion and extension movements, without signs of recurrence.

Surgical exploration was performed under sedation and local anesthesia. A transverse palmar incision was made over the volar skin fold of the MCPF joint at the base of the thumb. Among the surgical findings; A “Notta” node of the flexor pollicis longus tendon was identified, just proximal to the A1 pulley, which limits sliding through the pulley, with a slight thickening of the pulley (Figure 1 and Video 1). The A1 pulley was divided longitudinally with the flexor pollicis longus tendon released and extended to confirm complete release. Due to the redundancy of the Notta node, partial resection was performed without compromising the integrity of the tendon.

Closure of the wound with non-absorbable sutures (4-0 prolene) and a bulky dressing and bandage were applied for 48 hours. Passive stretching of the thumb was recommended. Postoperative period was uneventful and the patient began to use her thumb normally for all activities. At one-year follow-up, the passive range of motion of the interphalangeal joint was normal, with 10 degrees of hyperextension possible and there was no evidence of reactivation (Figure 2).

## Discussion

Diagnosis of this pathology is clinical, with a presentation of fixed flexion of the thumb at the interphalangeal joint or by visualizing the thumb clicking or snapping during movement. Likewise, a palpable Notta's nodule is found, proximal to the A1 pulley. The “Sugimoto” classification is useful for staging. Stages I-II are an indication for conservative management, and stages III-IV are an indication for surgical treatment [4]. Another indication is that it does not resolve spontaneously after 2 years of age; before then it is not indicated due to the technical complexity of the procedure and the possible risks, with conservative management being the indication, pending spontaneous resolution. Surgical treatment is based on the release of the A1 pulley, using a conventional volar approach, with good postoperative results, even in cases of late diagnosis or treatment. The prognosis depends on the age at the time of treatment. It has been observed that a delay in surgical treatment may result in residual contracture and digital angular deformity.

## Conclusion

Trigger thumb is the most common hand pathology in the pediatric population. Its analysis is a valuable activity that shows us the complex interaction between anatomical and pathophysiological knowledge, combining clinical and surgical criteria to make a differential diagnosis, in order to make an accurate and timely diagnosis; early interventions directed to prevent future damage and sequelae. By further studying this disease, we hope to expand our knowledge about the disorders that affect the hand and provide objective information for future studies on the subject.

## Statement of Equal Authors' Contribution

All the authors fulfilled the following functions

- Substantial contributions to the conception or design of the work
- Acquisition, analysis, and interpretation of data for the work
- Drafting the work, revising it critically for important intellectual content
- Final approval of the version to be published
- Agreed to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

## Statements and Declarations

We declare that we have had no previous discussions with any member of the Editorial Board of Scientific Reports about the work described in the manuscript. The manuscript has not been previously reviewed.

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