



A Case of Paediatric Trigger Thumb Presenting Acutely Following Trauma

Baker BG*, Pantelides NM and Dalal M

Department of Plastic Surgery, Royal Preston Hospital, UK

Abstract

We report the first documented case of paediatric trigger thumb presenting acutely following trauma. We believe that this is distinct from the typical presentation. Our case occurred within 48-hours of blunt injury in a 2-year-old boy, and was initially referred as a closed rupture of the extensor pollicis longus tendon. Bilateral nodules at the A1 pulley were palpable, and ultrasound examination was consistent with our diagnosis. Transient soft tissue swelling was a significant contributing factor, causing the previously subclinical abnormality at the A1 pulley to manifest. The deformity resolved completely within 3 weeks, as the swelling subsided. It is important for any surgeon examining a child's hand following trauma to be aware of the potential for paediatric trigger thumb to present in this way.

Level of evidence = level V (Case report)

We report the first documented case of paediatric trigger thumb presenting acutely following trauma. We believe that this is distinct from the typical presentation, and is important to keep in mind when examining a child's hand acutely following trauma, or when a child presents in an outpatient setting with flexion deformity of the thumb.

Keywords: Trigger thumb; Congenital hand deformities; Finger injuries/surgery; Paediatrics

Case Presentation

A two-year-old boy was referred to our Plastic Surgery Department with a suspected closed left EPL tendon rupture. He had fallen from a bike onto pavement, landing on his outstretched left hand. Following the accident, his hand movement was initially normal and painless. His parents subsequently noted that he became unable to fully extend his left thumb IPJ from 48 hours after the injury, and sought medical advice. He had no previous history of flexion deformity or triggering.

On examination, there were no lacerations and he was using both hands actively and without discomfort. There was no dorsal point tenderness over the left thumb but the left hand was mildly swollen and bruised. Flexion of the thumb was possible, but the IPJ could not be actively or passively extended beyond 45 degrees of flexion. On flexing the 1st MCPJ, the IPJ could be fully extended passively. A palpable nodule was noted in the region of the A1 pulley and was also present in the contralateral thumb. However, the function of the right thumb was completely normal, with no signs of triggering. Plain radiographs were unremarkable.

A provisional diagnosis of paediatric trigger thumb was made. Ultrasonography was consistent with this, demonstrating a fusiform thickening of the FPL tendon with bunching at the A1 pulley on dynamic assessment. The EPL tendon was intact.

The child was managed conservatively with simple analgesia and full hand mobilisation was encouraged. At review 3 weeks following initial presentation, he had returned to a full range of active and passive movement, and at 6-month follow up remained asymptomatic.

Discussion

Typically, paediatric trigger thumb presents with a painless loss of extension at the thumb IPJ, often at around 2 years of age. The "triggering" commonly seen in adults is rare in children and the parents are often unaware of the precise onset of the condition. The aetiology remains poorly understood and, indeed, it remains controversial as to whether the condition is congenital or acquired.

To our knowledge, this is the first documented case of paediatric trigger thumb presenting

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*Correspondence:

Benjamin G Baker, Department of Plastic Surgery, Royal Preston Hospital, Sharoe Green Lane, Preston, PR2 9HT, UK, Tel: 01772 522847; Fax: 01772 523694;

E-mail: benjamin.baker@nhs.net

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following trauma. We believe that this is distinct from the typical presentation. In our case, presentation was within 48 hours of minor blunt injury. Soft tissue swelling was a significant contributing factor, causing the previously subclinical abnormality at the A1 pulley to manifest. This accounts for the delayed onset following injury and the subsequent return to a full range of hyperextension within 3 weeks of conservative management, as the swelling subsided.

In contrast, inflammation and trauma is not present as part of the typical presentation of paediatric trigger thumb. Ultrasound evaluation of 28 children (35 trigger thumbs) demonstrated normal echotexture of the involved FPL tendons and A1 pulleys; the only abnormality was a focal enlargement of the tendon [1]. Furthermore, when treated non-operatively, the recovery period following a typical presentation is much longer than in our case; of 87 affected thumbs monitored prospectively, 76% resolved with non-operative treatment, and the median time from initial visit to complete resolution was 49 months [2].

We feel that it is important to draw attention to the potential for paediatric trigger thumb to present following trauma to avoid a misdiagnosis where, in the context of trauma, it may be mistaken for a closed injury to the extensor mechanism, as it was initially in our case. Where the examination findings are uncertain, an ultrasound scan can help to clarify the diagnosis. Furthermore, it is important to ask about recent trauma when a child presents with a trigger thumb. If this is missed, and a palpable Notta's node is present, it may be

thought to be a typical presentation and operative management may be recommended as some still consider this the mainstay of treatment [3].

In our case, given the history of recent trauma, it was likely that the condition would resolve as the swelling subsided, despite the pre-existing clinical abnormality. Non-operative management was preferred and careful follow-up was initiated. The child returned to normal function within a short period.

This is the first reported case of paediatric trigger thumb presenting acutely after blunt trauma. This is an important diagnosis to be aware of for any surgeon examining a child with a flexion deformity of the thumb.

References

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