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Failure to diagnose: tendon injuries

Case histories are based on actual medical negligence claims or medicolegal referrals; however certain facts have been omitted or changed by the author to ensure the anonymity of the parties involved.

This article discusses a claim arising out of an alleged failure to diagnose a tendon injury involving a finger. The case highlights some of the challenges in managing hand injuries in general practice.

Case study

The patient, 18 years of age, injured her right middle finger while playing netball on 1 June 2007. She presented to her general practitioner the following day. The GP obtained a history that the ball had struck her middle finger, bending it backward. The patient felt immediate pain in her finger and was unable to continue to play netball. One of her team mates had strapped the middle finger to her ring finger and the patient had also applied ice to the area that evening.

On examination, the GP noted that the right middle finger was swollen and bruised. The GP noted tenderness, particularly over the distal interphalangeal joint (DIPJ). The patient was unable to move her finger because of pain and swelling. The GP referred the patient for an X-ray of her right hand and asked the patient to call her for the result of the X-ray. The GP recommended ongoing buddy strapping of the finger.

On 4 June 2007, the GP received a copy of the patient's X-ray. The report noted:

'There is an undisplaced fracture of the base of the distal phalanx of the right middle finger extending into the DIPJ. No fracture is seen. A calcified density is seen projected just anterior to the distal metaphysis of the proximal phalanx of the right middle finger. This calcified density is of uncertain significance'.

On 6 June 2007, the patient telephoned the GP for the results of her X-ray. The GP informed the patient that there was a fracture through the tip of the middle finger but that the bone was in a good position. She recommended that the patient keep the finger strapped until the pain and swelling settled and then start to move the fingers, as pain permitted. The GP told the patient to come back if she had any further problems. No record of this telephone conversation was made in the patient's medical records.

Three months later, the patient returned to see another GP in the practice. At this time, the patient was complaining of an inability to fully flex the DIPJ of her right middle finger. A further hand X-ray was ordered and the report concluded:

'The fracture at the base of the distal phalanx of the right middle finger is still visible. Union is progressing, but is not yet complete. The small density that was previously described lying just distal to the proximal interphalangeal joint has migrated proximally. It now lies opposite the distal portion of the proximal phalanx. This X-ray finding is suggestive of an avulsion of the flexor digitorum profundus tendon'.

The GP organised an urgent referral of the patient to a hand surgeon. At this review, the hand surgeon noted the clinical history and X-ray findings. The hand surgeon informed the patient that if the tendon injury had been diagnosed in a timely manner, that is within a 14 day period, reattachment of the avulsed tendon may have been possible. However, in view of the delay in diagnosis of over 3 months since the initial injury, the surgeon advised the patient that she had three options:

- leave things be and accept the disability
- undergo debridement of the stump of the tendon and an arthrodesis of the DIPJ in a functional position, or
- undergo a two stage flexor tendon reconstruction.

The patient opted for the latter procedure to try and obtain the best functional outcome. Unfortunately, this surgery was unsuccessful and, ultimately, the patient underwent an arthrodesis of the DIPJ of her right middle finger.

In December 2008, the GP received a Statement of Claim alleging a delay in diagnosis of a tendon injury of her right middle finger.

The Statement of Claim outlined the particulars of negligence against the GP as follows:

- **failure to diagnose the full extent of the plaintiff's injury to the right middle finger**
- **failure to arrange a follow up consultation within 2 weeks of the first consultation so as to further diagnose the injury to the right middle finger and advise the plaintiff as to appropriate treatment**
- **failure to properly act on the results on the X-ray performed on 3 June 2007**
- **failure to refer the plaintiff to an orthopaedic surgeon for timely further review and treatment**
- **failure to properly examine the plaintiff's right middle finger**
- **if clinically the plaintiff's right middle finger at the first consultation was too swollen and painful to properly examine, failing to arrange a follow up consultation in close proximity to the first consultation, so that a proper examination of the finger could be undertaken to reach an informed diagnosis and provide appropriate treatment.**

The plaintiff (patient) served an expert report by a general practitioner with the Statement of Claim. The GP expert opined that the finding on the X-ray that the fracture of the distal phalanx had extended into the joint 'raises particular concern'. The expert went on to state that 'although there is no significant displacement noted by the radiologist, all GPs are aware, or should be aware, that a fracture extending into a joint is much more likely to be complicated. Such complications may include delayed healing, injury to tissues around the joint and other long term adverse sequelae'. The expert criticised the fact that the medical records indicated 'no active treatment, or management, or consultation beyond the initial episode on 2 June 2007. There is no record that the X-ray was reviewed by the GP or that the results were communicated to the patient. It appears that the management of the patient was simply an X-ray and management with a buddy bandage. The GP should have reviewed the patient within a short time, say 2 weeks, to assess return of normal function. The lack of a full range of movement in the initial circumstances could be accepted as due to the pain and swelling consequent to a simple uncomplicated fracture. However, the presence of an X-ray report indicating that a fracture is extending into the joint should cause further concern and encourage follow up. If there is no progress with return to function then the original fracture should be discounted as the cause of lack of progress. The fracture of a distal phalanx occurs commonly with many crush injuries. Recovery is normally simple and uncomplicated over a few weeks. The observation that function had not returned in the normal timely fashion would raise the alarm that further problems had occurred within the finger'.

With regard to the need for a specialist review, the GP expert opined that 'a specialist opinion was not required with the presenting symptoms or following the results of the initial X-ray report. I consider specialist opinion would be indicated at the follow up consultation within 2 weeks after the original injury. An adequate history and examination at that time, possibly with another X-ray, would have suggested a significant complication or hindrance to healing which would then be beyond the knowledge and skill of an ordinary GP to manage'.

The plaintiff also served a report by a hand surgeon who concluded that 'a different outcome was likely if there was an adequate history and examination. Complications revealed by lack of progress at a follow up appointment at one, or at most 2 weeks following the injury would highlight a need for specialist opinion and management. Timely diagnosis, that is within the 14 day period, would have enabled reattachment of the involved tendon. Alternatively treatment may have involved a single stage tendon graft. The final outcome for such surgical treatment in most cases is excellent. More particularly, timely diagnosis could have avoided the need for the fusion of the plaintiff's finger'. The defendant GP's solicitors also sought expert GP opinion. The GP expert noted 'it is important to establish as soon as possible whether a significant injury which may require further treatment has occurred. To this end, it is common practice prior to conducting a thorough examination of an injured finger to make the finger more comfortable with buddy strapping and to perform an X-ray. It is common practice to re-examine the finger in the next few days when the pain and swelling have reduced and the finger can be examined more completely. Should a tendon injury be suspected at that time, there is still time to refer the patient for a tendon repair'.

In this case, both the GP experts were critical of the GP's failure to arrange a follow up examination within 2 weeks. Based on the expert GP opinions, the claim was settled out of court.

Discussion and risk management strategies

Finger injuries are common presentations in general practice. These injuries are often associated with bruising, swelling and pain. It is important to establish as soon as possible whether a significant injury, which may require further treatment, has occurred. Murtagh notes in his *General Practice* text: 'The tendency to regard fractures of phalanges (especially middle and proximal phalanges) as minor injuries, with scant attention paid to management and particularly to follow up care, is worth highlighting. These fractures require as near perfect reduction as possible, careful splintage and, above all, early mobilisation once the fracture is stable, usually in 2–3 weeks. Nevertheless, overzealous mobilisation can be as dangerous as prolonged immobilisation. Early operative intervention should be considered if the fracture is unstable'.[1]

Murtagh goes on to discuss fractures of the distal phalanx stating: 'Distal phalanges: usually crush fractures; generally heal simply unless intra-articular'.

With respect to intra-articular phalangeal fractures, he states: 'Intra-articular phalangeal fractures are a great problem in management as subsequent stiffness of even a single interphalangeal joint can be a significant disability. Subsequent degenerative changes are common.

These fractures often occur in association with subluxation or dislocation of the joint. Reduction and fixation of the fracture may be an integral part of restoring joint stability. Displaced intra-articular phalangeal fractures, especially with joint instability, require referral'.

Tendon injuries involving the fingers are important in terms of the disability that can arise if they are not correctly managed. This case is a reminder of the importance of careful management and follow up of phalangeal fractures.

Conflict of interest: none declared.

Reference

1. Murtagh J. General practice. 3rd edn. Sydney: McGraw Hill, 2003.

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