Look Beneath the Skin: An Unlikely Source of Median Nerve Injury

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ABSTRACT
A 41-year-old man presented with an occult median nerve injury. This report highlights the importance of adequate wound exploration and reinforces the significance of adequate history and examination in patients with signs of nerve injury.

KEY WORDS
Hand injury, Nerve injury

CASE REPORT
We describe a case of unusual presentation of median nerve injury following a seemingly insignificant injury. A 41-year-old man presented with paresthesia in the distribution of the radial digital nerve of his nondominant index finger. This report highlights the importance of adequate wound exploration and reinforces the significance of adequate history and examination.

A 41-year-old man sustained a 5-mm puncture wound, 3 cm proximal to the distal wrist crease. He punctured his wrist on a metal railing and did not feel that he had sustained any significant injury warranting a medical help at that time. However, 24 hours later, he noticed decreased sensation on the radial side of his nondominant index finger. Hoping it would settle, he did not seek medical advice for the next 5 days. At presentation to his general practitioner, examination revealed a normal hand examination with full range of movements except for a subjective decrease in sensation within the distribution of the radial digital nerve of his nondominant index finger and a clean healed 5-mm wound at his left wrist. Although at this stage the clinical impression did not coincide with subjective clinical finding, wound was explored on high index of suspicion. The laceration was explored under GA and arm tourniquet to have bloodless field. The healed wound was extended in either direction for exploration of the median nerve. The skin, subcutaneous tissue, and fascia were incised to identify the median nerve lying radial to the tendon of the palmaris longus. The tendon of the palmaris longus was retracted to gain access to the median nerve. The foreign body (metal fragment) was found embedded in the anterior surface of epineurium of the median nerve. The foreign body was retrieved from the median nerve (Figures 1 and 2).

DISCUSSION
Median nerve damage at the wrist can result from a penetrating injury. The extent of nerve damage ranges from neuropraxia,1 laceration to the epineurium,2 or laceration to a nerve substance,3 which can result in altered nerve function. The presentation of patient can be immediate or delayed and the diagnosis can be missed in cases of trivial injury or where mechanism is unclear.

Figure 1. Foreign body visible in median nerve substance; palmaris longus retracted.

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The median nerve has muscular and sensory branches in the hand. Sensory distribution includes radial three and a half fingers (ie, thumb, index, middle, and radial half of ring finger). After giving its muscular branch to thenar muscles, the median nerve divides into common digital nerves. Common digital nerves split into 2 digital branches, which are named as lateral and medial or radial and ulnar digital nerves. The area supplied by the radial digital nerve of the index finger is one of the most important areas in the hand for sensation, as it supplies sensation in pinch grip. Any doubt about its integrity warrants exploration.

This case highlights the importance of adequate wound exploration in situations where positive finding on clinical examination does not concur with clinical impression. If there is a doubt in diagnosis or it is impossible to adequately explore the wound, it is vital that a specialist tertiary referral unit is involved in ongoing care. The tertiary units are specialized hospitals, which are used as the ultimate referral units by all the hospitals in their catchment area for definitive treatment.

REFERENCES