Median nerve penetration by an anomalous tendon

Case illustration

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Because surgery is performed frequently in this region, knowledge of anatomical variation of the median nerve at the wrist is essential. We recently observed a variation of the median nerve that has not been reported in large clinical series or cadaveric studies. A previously asymptomatic 34-year-old man presented with a 1-year history of weakness in the left hand and numbness of the thumb and the index and middle fingers. These symptoms developed immediately following a motor vehicle accident in which he had sustained a significant closed head injury and multiple fractures. An open left wrist fracture/dislocation was debrided, reduced, and stabilized on the day of injury and was closed with split-thickness skin grafting in a delayed manner. Because of hand and finger pain and stiffness, the function of his hand further deteriorated postoperatively. Clinical and electrodiagnostic examinations at our institution were used to confirm a longstanding complete lower median nerve lesion. At surgery, a partially transected and badly contused median nerve was identified at the proximal extent of the carpal canal. Several inches proximal to the neuroma we noted incidentally an anomalous tendon slip penetrating the middle of the median nerve (Fig. 1). The fascicular pattern of the nerve was undisturbed at this level, and there was no local irritation or inflammation. The tendinous slip originated from the fascia of the flexor digitorum superficialis muscle, inserted into the palmar aponeurosis, and represented a variant palmaris longus; a normal-appearing palmaris longus was also present. The median nerve traversed the carpal tunnel along with the other usual constituents (nine flexor tendons). The tendon slip was excised and tenolysis of the flexor tendons was performed. The median neuroma did not conduct a nerve action potential and was excised. Four sural nerve grafts, each measuring 2.75 in in length, were sutured from the median nerve to the various thenar and digital nerve branches.

Anatomical variations of the median nerve at the wrist level are relatively common and typically involves variant branching patterns. Cases of median nerve penetration by muscles or arteries, usually resulting in symptoms of nerve compression, have been reported. We report penetration of the nerve by a tendon. This case also illustrates that not all anatomical variations associated with neurological symptoms are necessarily responsible for them.

References


Fig. 1. Intraoperative photograph of the distal forearm. An anomalous tendon slip (held by vessel loops proximally and distally) is seen penetrating the midportion of the median nerve.

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