

– Abstract –

All Ulnar Motor and Sensory Hand without Forearm Anastomosis – A case report –

Moon Ho Park, M.D., Seung Hwan Lee, M.D., Sang Heon Lee, M.D.*,
Min Kyu Park, M.D., Kun Woo Park, M.D., Dae Hie Lee, M.D.

Department of Neurology and Rehabilitation Medicine, Korea University College of Medicine*

A 63-year-old women with all ulnar hand is presented. The patient who intermittently complained of right hand numbness had all the motor and sensory nerve fibers in her hand be innervated totally by ulnar nerve due to ulnar-to-median nerve communication. There was, moreover, no evidence of anomalous communication in the forearm. All the thenar muscles responded to stimulation of the ulnar nerve, called “all ulnar hand”, has been rarely described. We report a unusual case of all ulnar motor and sensory hand without forearm anastomosis.

Key Words : Nerve anastomosis, All ulnar hand, Riche-Cannieu anastomosis

“ (all ulnar hand)”

1 .⁴

(hand)

1

(median nerve) (ulnar nerve)

(innervation) (hand intrinsic

muscle) 가 .

(median-to-ulnar anas-

tomosis, Martin-Gruber anastomosis)

17~39%가 .^{1,2} ,

(ulnar-to-median anastomosis) 63 가

.³ (anastomosis) 6

Address reprint requests to Dae-Hie Lee, M.D.
Department of Neurology, Korea University College of Medicine, # 126-1 Anam-dong-5-ga, Sungbuk-ku, Seoul, 136-075, Korea
Tel : 82-2-920-5093, Fax : 82-2-925-2475, e-mail : kuneuro@netsgo.com

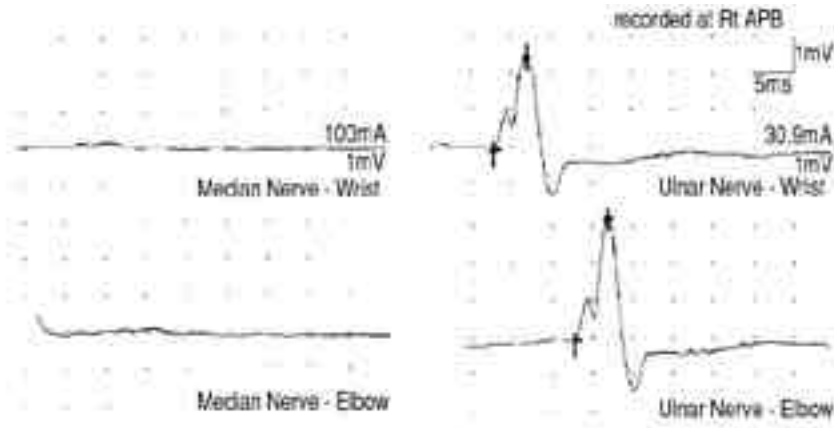


Fig. 1. The CMAP responses from the abductor pollicis brevis (APB) muscles with the wrist & elbow stimulations in the median and ulnar nerves. Stimulation of the ulnar but not the median nerve at the wrist and elbow elicited normal CMAP over thenar regions.

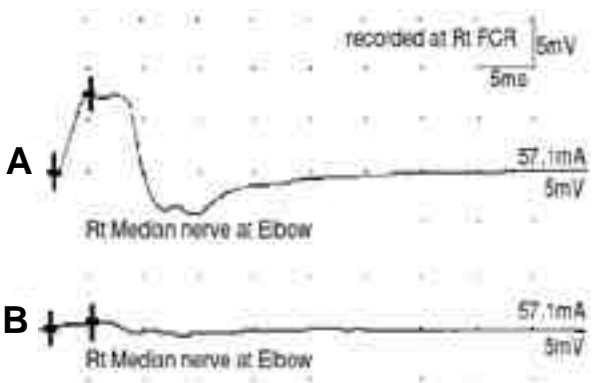


Fig. 2. Using concentric needle recording electrode, a normal flexor carpi radialis (FCR) CMAP was recorded stimulating median at elbow (A), but none stimulating ulnar nerve at elbow (B).

Tinnel (atrophy)

Phallen (thenar muscle)

(abductor pollicis brevis) 2 (lumbricalis muscle)

100mA

(flexor carpi ulnaris) (flexor digitorum profundus)

(cervical paraspinal muscle)

(inner cord)

(brachial plexus)

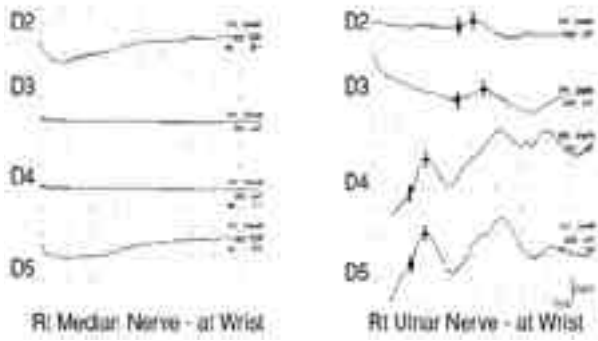


Fig. 3. Sensory conduction studies. Digital sensory potential evoked by ulnar or median nerves stimulation at the wrist. Median stimulation produced no potential to digit II, III, IV, & V. But ulnar stimulation at the wrist elicit responses to digit II, III, IV, & V. D2: digit II, index finger, D3: digit III, third finger, D4: digit IV, fourth finger, D5: digit V, fifth finger

(superficial terminal branch)

(deep muscular branch)^{5,6}
Marinacci "Marinacci-anastomosis"

가
(denervation)

가 가 가
가 가

volume-conduction 가

가

가

(recurrent branch)

가 , "Riche-Can-
nieu anastomosis"¹⁰ "Riche-Can-
nieu anastomosis"
83% 1.4%
volume-conduction ,

^{11,12}

가 ,¹¹

(autopsy)

가

(reinnervation) 가

(reinnervation)

가

가

가

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