Anatomical variation in the innervation of the little finger: A case report

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A 29-year-old male patient was seen on February 12, 1992, with a large hypothenar mass which he noticed after an injury to his hand the previous year. The 6x3 cm soft tissue mass was slightly tender to palpation and extended from the wrist to the proximal phalanx of the little finger (Figure 1). The patient was investigated with an x-ray and computerized tomographic (CT) scan which indicated a soft tissue mass not involving the bone.

At surgery, the tumour was exposed and removed through a longitudinal incision which was angulated at either end. The ulnar nerve and artery were identified proximally at Guyon’s canal. The tumour measuring 6 cm in length was a lipoma (Figure 2), confirmed by histopathological examination. During the dissection, the ulnar digital nerve to the little finger was found to communicate with a branch arising from the dorsal sensory branch of the ulnar nerve (Figure 3).

Postoperatively, the sensation to the little finger was preserved intact.

DISCUSSION

In describing the ulnar nerve, a number of authors have found variations in both its motor and sensory distribution. These studies revealed that, whereas the palmar sensory digital distribution corresponded more or less with the description in anatomy textbooks (1,2), the distribution on the dorsum of the hand frequently varied with few exceptions. The common variation found on the palmar aspect is the way in which the digital nerves to the adjacent surfaces of the ring and middle fingers are formed (3,4). More marked variations have been reported on the dorsum of the hand. These include replacement of the dorsal cutaneous branch of ulnar nerve (DCUN) by the superficial branch of radial nerve (SRN) (5,6), replacement of the SRN by both lateral antebrachial cutaneous and DCUN, or replacement of the SRN and part of the DCUN by the lateral and posterior antebrachial cutaneous nerves (6). In addition, on rare occasions, the superficial DCUN has been noted to innervate the fourth lumbrical (7). Review of the literature has not shown any reports similar to the case presented here.

Knowledge of this anomalous innervation pattern is of clinical importance. Transection of the communicating branch of the DCUN may lead to paresthesia of the little fin-
ger, whereas complete laceration of the proper digital nerve proximal to the anastomosis may not produce complete numbness to the ulnar side of the little finger. The incidence of this communicating branch is unknown. One should be vigilant during palmar fasciectomy for Dupuytren’s contracture on an abductor digitii cord since it is in this clinical scenario that this nerve variation may be troublesome.

ACKNOWLEDGEMENTS: We would like to thank Ms Beth Tadeson, BSc, for her help in the preparation and Sherry Calligan for the typing of this manuscript.

REFERENCES