



Ulnar Nerve Compression Isolated to the Motor Branch:

A case series of three unique etiologies

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Background

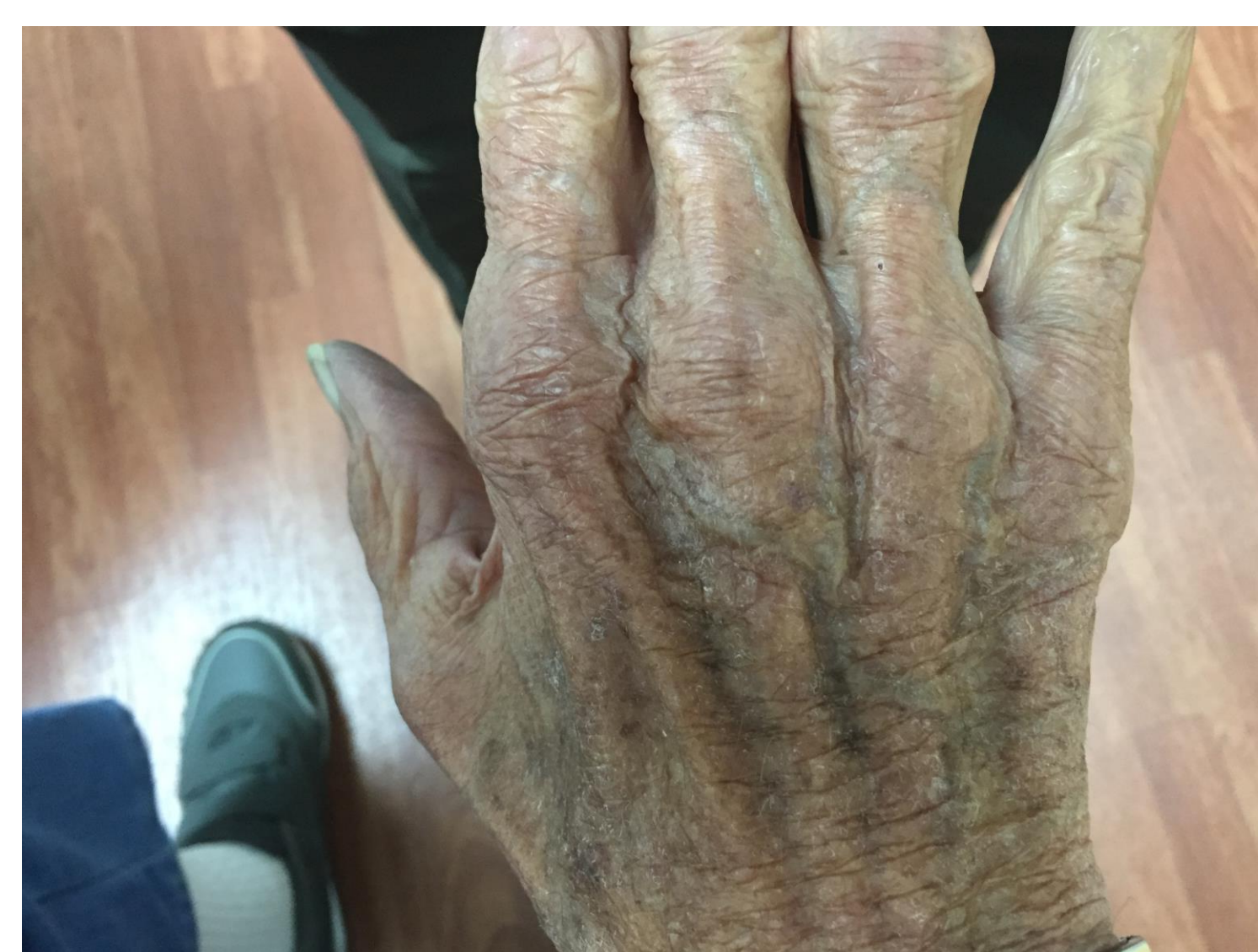
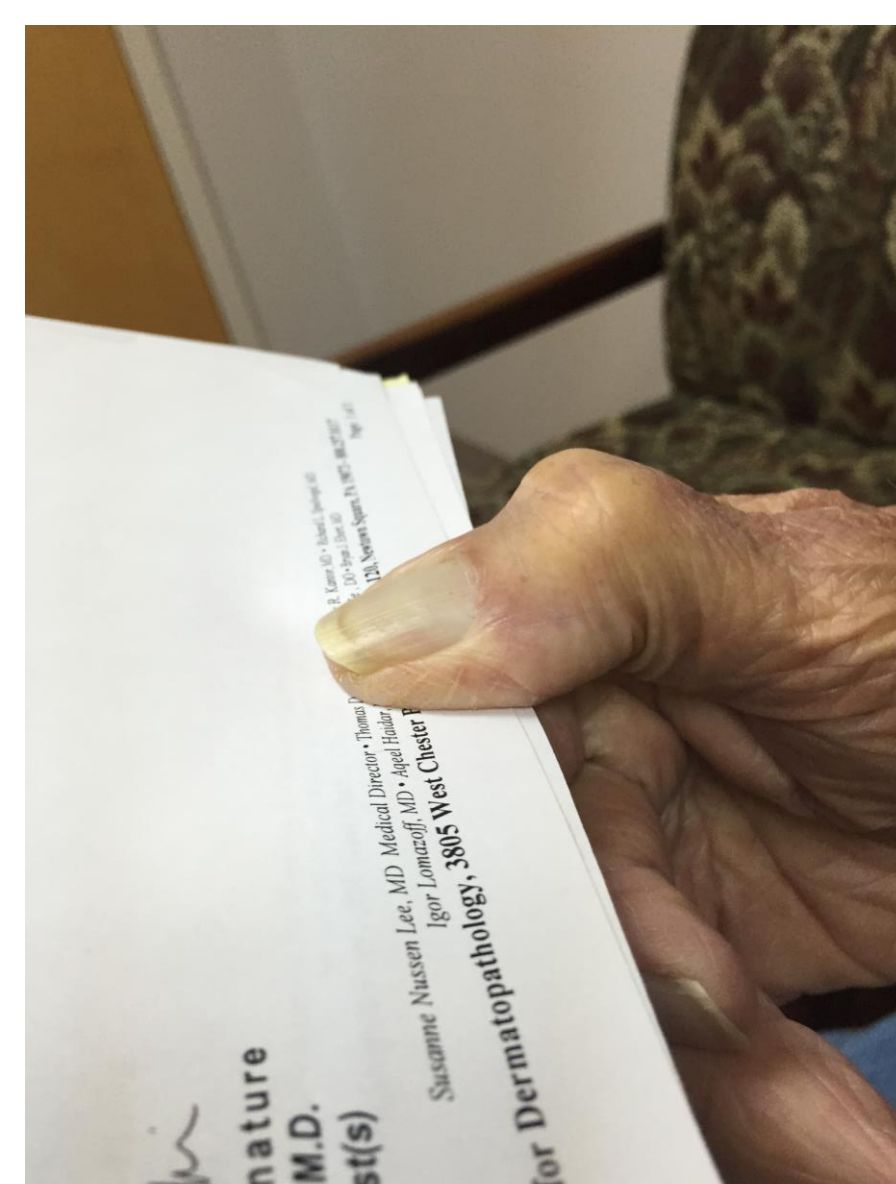
Patients presenting with a positive Froment's, positive Egawa, a negative Wartenberg's and no complaints of ulnar numbness with concomitant intrinsic wasting can be a diagnostic dilemma. Compression of the ulnar nerve isolated to the motor branch, distal to Guyon's canal is a rare, but important consideration for any patient with vague complaints of hand "clumsiness" and intrinsic wasting.

In this case series, three patients, all were treated surgically for motor branch compression due to an intraneural ganglion, compression at the fibrous edge of the thumb adductor, and a constricting leash of vessels. All patients had full resolution of symptoms postoperatively at a minimum of 1 year follow-up.

Case 1

AD is a 67 year-old mechanic presenting with 1 year of subjective weakness of the right hand as well as carpal tunnel symptoms.

On exam, atrophy of the first dorsal interosseous muscle was identified with no sensory deficits in the ulnar nerve distribution. Both Froment's and Egawa's signs were positive.

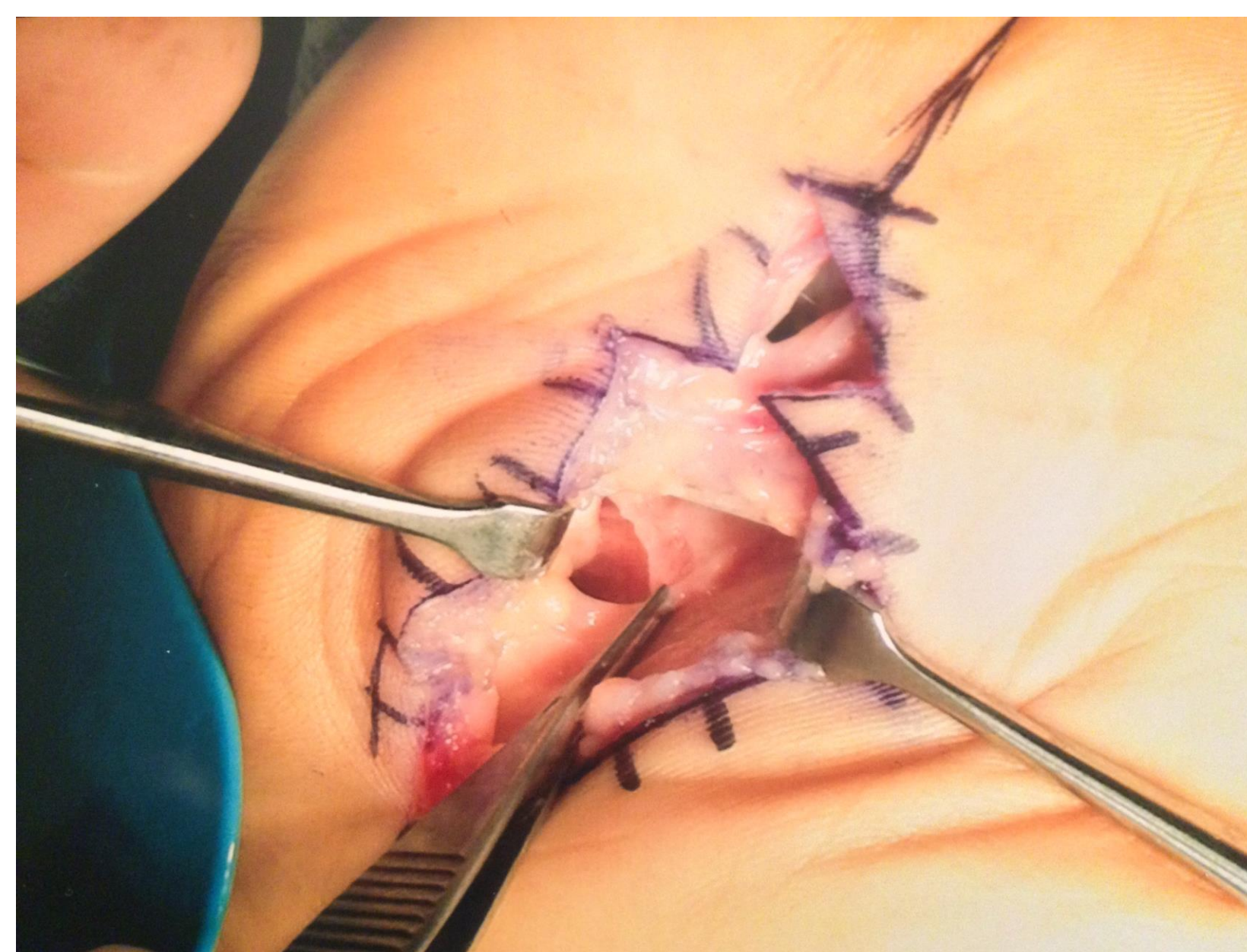


He was taken to the operating room for a carpal tunnel release and exploration of the ulnar nerve motor branch.

Intraoperatively he was found to have an intraneural ganglion at the level of the third metacarpal.



The lesion was excised leaving the surrounding viable nerve fibers intact.



By 6 months postoperatively, he had recovered strength and his exam findings had returned to normal.

Case 2

RU is a 19 year-old male meat-packing plant worker who noticed weakness and clumsiness of his non-dominant left hand.

He had intrinsic wasting and paralysis of his first dorsal interosseus. His Froment's and Egawa were positive, however his Wartenberg was negative. He did not have any sensory deficits.

Exploration of the motor branch of the ulnar nerve revealed a leash of 3 constricting vessels just radial to the third metacarpal with enlargement of the nerve proximally.

The vessels were ligated and released, with full resolution of symptoms by 6 months.

Case 3

MB is a 46 year-old female status-post carpal tunnel release with persistent complaints of weakness, wasting of her intrinsics, a negative Wartenberg's, positive Egawa, and positive Froment's sign.

She was taken to the OR where her previous incision was extended distally to identify the motor branch of the ulnar nerve. There, multiple fibrous bands as well as the fibrous leading edge of the adductor pollicis were compressing the ulnar nerve.



The patients symptoms completely resolved by 1 year after these constrictions were released.

Discussion

Patients often present to their hand surgeon with vague complaints of weakness or clumsiness. Identification of the offending pathology is typically attributed to one of several common diagnoses (i.e. carpal tunnel, cubital tunnel, etc.). However, a detailed history and careful physical exam may be needed with atypical cases.

Intrinsic weakness with wasting, a positive Froment's and Egawa but a negative Wartenberg in the absence of ulnar sensory deficits should prompt investigation of the ulnar nerve distal to Guyon's canal.