A CASE OF SUPERCHARGE END TO SIDE TRANSFER IN HIGH ULNAR NERVE INJURY

Nabeel Ahmed[1] , Nawfar[1], Mohammad b. Paiman[1].
[1]Department of Orthopaedics, Faculty of Medicine, Hospital University Sains Malaysia

INTRODUCTION:

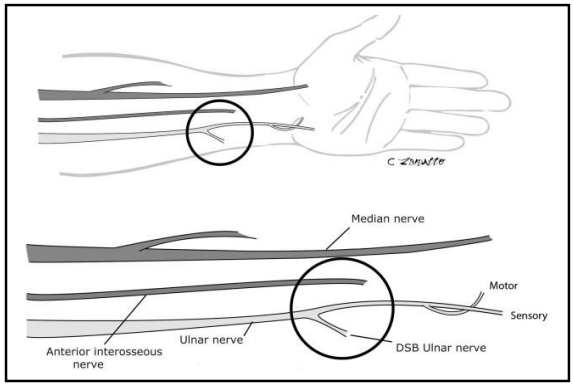
Functional restoration of a peripheral injury depends on the motor end plate reinnervation time and number of regenerating axons approaching target unit. To minimize the risk of damaging motor end plate in the proximal nerve injuries,"Supercharge end to side transfer" (SETS) - a distal nerve transfer is proposed that preserves or "babysit" the motor end plate until the proximal segment regenerates. In high Ulnar Nerve injuries AIN-To-Ulnar end to side transfer is utilized to supercharge recovery of Ulnar intrinsic muscles.

REPORT:

A 23-year-old right hand dominant male, sustained a glass injury followed by deep lacerated wound over medial aspect of left elbow , numbness, tingling and weakness of left hand.

Examination revealed a 8x3cm deep lacerated wound over medial aspect of left elbow joint, ulnar clawing (Duchenne sign) , Wartenburg sign (little finger in abducted posture), weakness of abduction of little finger and positive Froment sign. Wrist deviated radially on flexion with weakness of ulnar wrist flexion. Sensory loss over the ulnar nerve distribution with no vascular or bony injury. He was diagnosed to have High Ulnar Nerve Injury.

Wound exploration intra- operatively revealed complete ulnar nerve transaction in the cubital tunnel with common flexor muscle tear. Ulnar nerve was explored , mobilized , repaired and anteriorly transpositioned transmuscularly with fashioning of fascia sling augmented with SETS procedure by transecting AIN branch to PQ and neurotizing it to deep branch of ulnar nerve. He was put on a splint in intrinsic plus position. Patient was discharged next moring with regular follow up and planned for early rehabilitation.



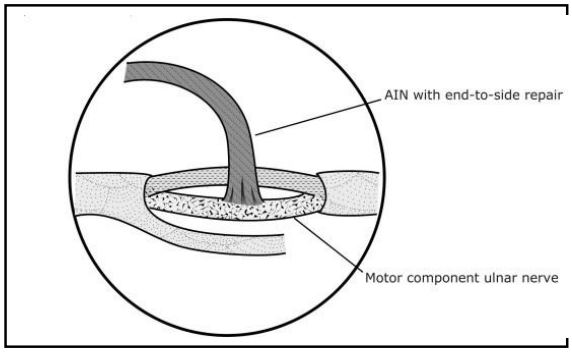


Figure 1: Nerves in distal forearm
Figure 2: AIN to Ulnar Neurotization

CONCLUSION:

SETS technique can be applied to augment partial recovery or preserve motor end plate till the time native axon regenerates up to the end plate.

REFERENCES:

1. Jarvie G, Hupin-Debeurme M, Glaris Z, Daneshvar P. Supercharge End-to-Side Anterior Interosseous Nerve to Ulnar Motor Nerve Transfer for Severe Ulnar Neuropathy.