

SEVERE PROXIMAL AXONAL INJURY OF THE MEDIAN NERVE FOLLOWING TRAUMATIC SHOULDER DISLOCATION: ELECTROMYOGRAPHIC INVESTIGATION

**Ioannis - Alexandros Tzanos, Maria Nianiarou, Nikolaos Pappas,
Aikaterini Kotroni**

KAT General Hospital Of Athens, Greece
e-mail: tzanosalexandros@yahoo.gr

Background

Acute traumatic shoulder dislocation is correlated with damage to the proximal peripheral nerves. Most common is damage to the brachial plexus, the axillary and musculocutaneous nerve. Less common is the damage to the proximal parts of the median, ulnar and radial nerves.

Case report

A 72 year old woman was referred to electrodiagnostic studies department 3 months after surgical treatment for right humeral fracture with shoulder dislocation. She reported three month long severe weakness and reduced sensation in the right upper limb. Upon clinical examination the characteristic Benediction hand was observed with reduced sensation confined to the median nerve distribution. The sensory nerve action potential (SNAP) and the compound muscle action potential (CMAP) of the right ulnar nerve were normal, but the SNAP and CMAP of the right median nerve could not be recorded. Fibrillations and positive sharp waves were recorded in the flexor capri radialis, extensor pollicis longus and abductor pollicis brevis muscles, while the electromyographic testing was normal in the right deltoid, biceps, triceps, brachioradialis, extensor capri radialis longus, extensor digitorum communis and abductor digiti minimi muscles. Taking into consideration that the median nerve derives from the branches of the median and lateral cords of the brachial plexus and in this case only muscles innervated by this nerve were denervated, the diagnosis of an isolated median nerve damage is the most likely.

Conclusion

Although the initial diagnostic approach focused on a diffuse brachial plexus injury due to the severity of weakness and the anatomical location of the injury, the detailed combination of clinical and electrophysiological findings supports the diagnosis of an acute traumatic injury to the median nerve above the elbow.

Keywords: median nerve, proximal, shoulder dislocation