Radial nerve torsion

Figure 1 Ultrasound of radial nerve torsion shows characteristic waist

Longitudinal ultrasound image across the spiral groove. Large arrows indicate site of axial imaging shown below in the smaller images. Smaller arrows point to the radial nerve. A is at entry B midsection and C after exit from spiral groove. The star lies above the deep brachial artery.

Peripheral nerve torsion is increasingly recognized due to the widespread availability of nerve ultrasound imaging.^{1,2} A 31-year-old man presented with acute onset complete left wrist drop after prolonged sleeping on his outwardly rotated arm. There was severe conduction block across the spiral groove and nerve ultrasound showed 2 areas with increased diameter (figure 1). On operation, there was radial nerve trunk torsion at the level of the intermuscular septum just distal to the spiral groove (figure 2). Two months after operation there was no improvement of the complete wrist drop.

This case illustrates the ultrasound imaging features of radial nerve torsion. The mechanism is thought to initiate with focal nerve inflammation resulting in loss of elasticity, leading to ratcheting of rotational forces exerted on the nerve.

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Figure 2 Radial nerve torsion at operation at the mid-level of the spiral groove

Note the radial nerve waist.

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