Supraclavicular Brachial Plexus Neurolysis

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This video provides an overview and demonstrates right brachial plexus neurolysis via a supraclavicular approach for resolution of focal scaring surrounding the supraclavicular brachial plexus causing pain and weakness. The indications, nonsurgical treatment, and surgical treatment for the procedure are reviewed. Supraclavicular brachial plexus neurolysis is discussed. The case presentation of a 15-year-old girl with a history of a gunshot wound to the right cervical spine, passing above the right supraclavicular brachial plexus, and a resulting incomplete C3-C4 spinal cord injury and increased right-sided symptoms is reviewed. After failed nonsurgical treatment that consisted of strengthening of the right side, the patient elected to proceed with brachial plexus neurolysis because ultrasonographic images confirmed supraclavicular brachial plexus scarring with associated neuritis, with a corresponding Tinel sign at this site, and severe pain radiating down the arm. The goal of supraclavicular brachial plexus neurolysis is to mitigate pain and increase right upper extremity strength via improved conduction of nerve signal. The patient remains in the early acute postoperative period and is showing early signs of decreased pain, with additional recovery expected during the postoperative period. This technique is a viable treatment option in patients with an injury of the brachial plexus at the root, cord, and division level who would benefit from neurolysis, nerve transfers, and/or nerve grafting. In this case presentation, exposure of the supraclavicular plexus allowed for neurolysis because of a presumed Sunderland grade II injury with weakness and localized pain recalcitrant to nonsurgical management.