

25. SWACSM Abstract

Rare Case of Simultaneous Thoracic Outlet Syndrome and Musculocutaneous Neuropathy in a Baseball Pitcher

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ABSTRACT

Introduction: The thoracic outlet is bounded by the clavicle, first rib, and muscles of the scalene triangle. When a compression within the outlet occurs, it presents as thoracic outlet syndrome (TOS). TOS typically develops from the combination of developmental abnormalities, injuries, and physical activities that cause compression of the brachial plexus neurovasculature. This classically manifests as sensory and motor symptoms involving lower trunk (C8-T1) dermatomes and myotomes. The upper trunk and associated peripheral nerves, including musculocutaneous, are typically spared. **Case Description:** A 22 y.o. male with a history of ulnar collateral ligament reconstruction and right elbow ulnar decompression a year prior presented for follow up with persistent shoulder soreness. He was collegiate pitcher and after 18 months post op, he started to experience vague anterior shoulder/upper arm pain and numbness down the arm. He had some difficulty localizing the symptoms. He was clinically diagnosed with TOS and initial recommendations included physical therapy, changing pitching biomechanics, pitch count limits and an interval throwing program. **Clinical course:** His symptoms progressed however and he developed worsening paresthesias. He was now able to endorse both medial and lateral forearm symptoms, and later some weakness in the biceps with weightlifting. Electromyography testing was consistent with brachial plexopathy (TOS) but also showed a superimposed musculocutaneous neuropathy. He was treated more aggressively with activity modification and therapy, along with education and counseling regarding TOS and musculocutaneous neuropathy. His musculocutaneous neuropathy symptoms improved, but TOS symptoms continued. At last follow-up he returned to pitching but was considering consultation with a TOS surgeon. **Conclusions:** When diagnosed, TOS typically should involve sensory changes in the medial arm and motor changes of C8-T1 innervated muscles. Isolated musculocutaneous neuropathy can cause vague shoulder and arm symptoms and may be difficult to diagnose clinically in absence of biceps weakness. This case highlights the rarity of musculocutaneous neuropathy superimposed on TOS and the importance of dermatome and myotome clinical correlations as it relates to the brachial plexus.