

Case Presentation for Axillary Nerve Injury

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ABSTRACT

CASE HISTORY: The patient is a 21-year-old male experiencing upper extremity numbness and tingling in the right deltoid. He began to experience these symptoms after a football injury and was seen by a doctor who referred him to a sports medicine specialist one month after the injury. The injury occurred during a football game, where he was struck by an opponent on the right inferior axillary region. The patient lost mobility of his right arm immediately following his injury, however, regain minimal mobility a week later. Right arm was checked for dislocation or any fractures, and none were found. The patient was referred to a specialist and received one follow-up visit after his initial evaluation. **PHYSICAL EXAM:** The patient received care from an Athletic Trainer who referred him to a doctor for further examination. The doctor tested the strength and reflexes of the upper body extremities and found a decreased in sensation at the right deltoid, compared to the left. **DIFFERENTIAL DIAGNOSES:** Shoulder dislocation, neuralgic amyotrophy, lymphoma, parsonage turner syndrome, cervical radiculopathy of C5-C6, quadrilateral space syndrome. **TESTS & RESULTS:** There was no spinal cord injury based on the Hoffman test. The Sensory Conducting Study found the right and left Antebrachial Cutaneous Nerves outside the normal range. The test displayed neuromuscular dysfunction in the Right Axillary Nerve, with very low amplitude; thus, the nerve signaling was not enough to allow movement. A Motor Nerve Conducting Study showed no significant abnormalities in six of the eight nerves but found irregularities in the Right Axillary and Right Radial Nerves. The EMG showed the Right Axillary Deltoid nerve to have a significant decrease in amplitude, 1.3 mV. An F Wave EMG showed a significant spike in the Right Median Nerve that controls the Abductor Pollicis Brevis muscle. The F wave test showed positive fibrillation, indicating the nerve was misfiring and continuing to provide signaling. There was no pattern or activation of neuromuscular response but misfiring of the Right Axillary Nerve indicated the patient has Right Axillary Neuropathy. The EMG tests were repeated during the one-month follow-up, and the results did not show a significant change. **FINAL DIAGNOSIS:** Right Axillary Nerve severe shock with partial laceration. **DISCUSSION:** Axillary Nerve damage is a common peripheral nerve injury involving the shoulder. The most common cause for Axillary Nerve damage is a dislocation of the glenohumeral joint, a fracture or a severe blow to the deltoid muscles. In extreme cases, nerve damage is caused by complications from shoulder surgery. In rare cases, Quadrilateral Space Syndrome, and Parsonage-Turner Syndrome causes unusual shoulder pain, numbness, motor weakness, and dysesthesia. In overhead athletes, subacromial impingement is common and affects the shoulder muscles' functions. Other forms of sever shoulder pain can be cause by a hereditary phenomenon called Neuralgic Amyotrophy. Peripheral nerve lesions, which can range from lymphoma of a peripheral nerve to abnormalities, are uncommon but can affect the patient's recovery. Diagnosis of injuries are confirmed by electrophysiological and electromyography testing, as well as nerve conduction studies. Treatment for this disorder should involve extensive rehabilitation focusing on passive and active range of motion with strengthening of the rotator cuff and deltoid muscles. **OUTCOME OF THE CASE:** Patient continued his care with the Athletic Trainer and gradually regained his mobility and did not return to football for the season. **RETURN TO ACTIVITY AND FURTHER FOLLOW-UP:** The patient will continue his care with the Athletic Trainer and is planning to return for next year season.