

Case Presentation for Peripheral Nerve Neuropraxia (trauma)

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ABSTRACT

CASE HISTORY: The patient is a 20 years old female collegiate rower who has been suffering a series of acute and chronic events for 15 months which began with pain in the left shoulder. The pain started at the vertebral border and superior angle of the scapula after rowing in the open water. She received one month of treatment for scapular dyskinesia. At this time, the patient suffered a second injury mechanism involving the subluxation of the rib heads of T4 through T6 with stress fractures in the corresponding ribs. The athlete went through four months without participating in sport activities where she was asymptomatic. When returning to the sport, the patient suffered a third episode involving a herniation in both cervical and thoracic spine. As a consequence, she was taken out from any sport activity and was prescribed a conservative physical therapy treatment. Upon asymptomatic and returning to the competition, she suffered a fourth episode resembling the first three. She received a corticosteroid injection treatment and kept rowing. When waiting for upcoming injections she suffered a fifth episode.

PHYSICAL EXAM: Examination of the left shoulder does not demonstrate any acute deformity, asymmetry or ecchymosis. She presents winging scapula on the affected side. She demonstrates 5/5 strength testing with shoulder flexion, extension, adduction and abduction and a full range of motion of those movements. The pain is still notable with forward flexion above 100° and horizontal abduction to 100°. **DIFFERENTIAL DIAGNOSIS:** Scapular dyskinesia; Cervical disc herniation; Parsonage Turner syndrome; Peripheral nerve neuropraxia. **TESTS & RESULTS:** MRI showed degenerative changes to the rib heads articulating from T4 to T6, subluxation on the ribs and herniation in C5-C6 and T6-T7. EMG showed abnormalities in long thoracic, suprascapular and axillary nerves. **FINAL DIAGNOSIS:** Peripheral nerve neuropraxia. **DISCUSSION:** Injuries to the axillary, suprascapular and long thoracic nerves produces different clinical syndromes in the shoulder. The clinical manifestations include pain, weakness and atrophy. The syndrome can lead to a compression of the brachial plexus at or above the clavicle level, associated often with overhead sports such as tennis, football or gymnastics, which develop unilateral hypertrophy and abnormally low carriage of the shoulder. Clinical presentation includes weakness and pain in abduction, tenderness in posterior shoulder area, more notorious when placing the arm in throwing position and resisting internal rotation. **OUTCOME OF THE CASE:** Peripheral nerve injuries are less common and extremely hard to diagnose. This case is rare and unique, because rowing is a sport in which the athlete does not use the overhead motion and therefore it has fewer incidences of neuropathies due to the smaller chance of brachial plexus impingement. After undergoing through extensive treatment, lidocaine injections and surgery to release the nerves; she is not currently taking medication and she is performing a preventive treatment with the Athletic Trainers. The program includes free weights, Bosu, medicine ball, and Thera-band exercises focused on the strengthening of the scapula, the maintenance of range of motion, and core stability. **RETURN TO ACTIVITY AND FURTHER FOLLOW-UP:** She is currently doing ergo and rowing as functional activities. She will continue doing the preventive program until she is sport pain-free and she is able to control the scapula (reducing the winging).