

C5-C6 Brachial Plexus Injury Sustained as a Result of Indoor Sky Diving.

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Case Report

History

- A 41 year old lady presented to the Emergency Department with right arm weakness associated with pins and needles.
- The previous day she had been indoor skydiving where she was supported by high flow air but no harness.
- She was adamant that no injury or trauma was sustained during the indoor skydive.
- Upon leaving the skydiving simulator, she immediately noticed pins and needles in her right hand, particularly in her thumb, index and middle fingers. Her right arm felt 'dead'.
- She had no neck pain, headache or visual symptoms.
- She had no bowel or bladder disturbance.
- There were no symptoms in the left arm or legs.
- She had no significant past medical history and was not on any regular medications.

Examination

- She was unable to raise her right arm and there was reduced flexion in the right arm.
- Her C4 dermatome appeared intact; but she complained of numbness, particularly in the outer and medial aspects of the right arm.
- Sensation at the level of T2/T3 was intact, but there was numbness of the thumb and index finger.
- There were reduced biceps and supinator reflexes in the right arm, but the triceps reflex was normal.

Working Diagnosis

- C5-C6 brachial plexus injury secondary to indoor sky diving.

Investigations

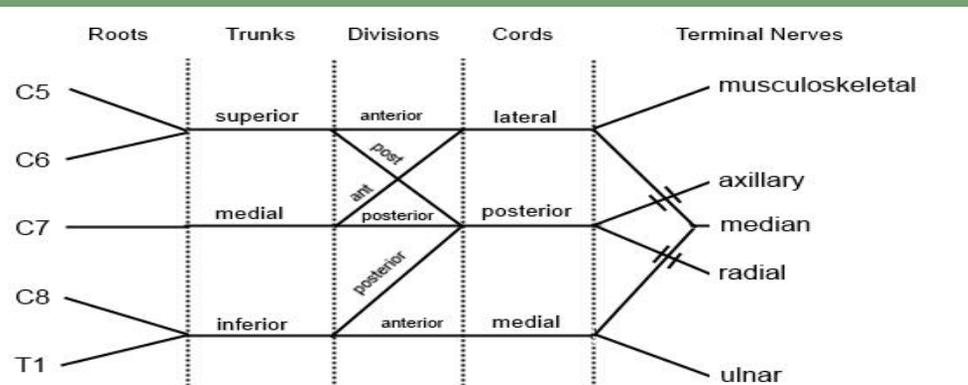
- A plain cervical spine x-ray was normal.
- Four weeks post onset of symptoms, an MRI scan of her brachial plexus was normal.
- Six weeks post onset of symptoms, nerve conduction studies were normal.

Progress

- At subsequent reviews in the ambulatory care unit, pain in the right biceps area was a prominent feature.
- Her symptoms improved with physiotherapy and supportive management.

DISCUSSION

- Isolated C5-C6 injuries are rare manifestations of brachial plexus injuries.
- Although rare, they have been reported in indoor skydivers [1].
- Patients may present with or without shoulder trauma.
- The rapid diagnosis of the injury results in earlier treatment and may reduce the need for more invasive investigations.
- Those 'in the know' suggested that in this case the injury may have been caused by an instructor 'yanking' on the patient's arm, although the patient said this was not the case.
- The risk of peripheral neuropathy should form part of the informed consent for this activity.
- We postulate a neuropraxia type injury to the brachial plexus or musculoskeletal nerve.



Schematic Diagram of the Brachial Plexus

REFERENCE

1. Mautner K, Keel J. Musculocutaneous nerve injury after simulated freefall in a vertical wind tunnel: a case report. Arch Phys Med Rehabil 2007; 88: 391-3.