

A Case of Suprascapular Neuropathy Mimicking as Parsonage-Turner Syndrome

David Jevotovsky, MD, MBA,¹ Dylan Banks, MD,¹ Chris Chiodo Ortiz, MD,¹ Harrison Haiden, DO,¹ Charles Kim, MD,¹ Lyn Weiss, MD¹
¹New York University Grossman School of Medicine

Department of Rehabilitation Medicine
 Rusk Rehabilitation

CHIEF COMPLAINT

A 44-year-old male financier (180lb) with no significant past medical history presented to pain management clinic with **7 months of shoulder pain**.

INITIAL PRESENTATION

Per initial consultation notes with orthopedics 2 weeks after pain onset, the pain was sharp, non-radiating, localized to the superolateral right shoulder, and began after a slight increase in his push-up exercise regimen. A pain scale was not obtained at this time. He denied any recent surgery or infection and was not taking any medications at the time. Initial exam of right shoulder:

- 4/5 shoulder flexion
- 4/5 external rotation
- 4/5 internal rotation
- +Hawkin's sign
- +Neers' sign

Initial evaluation was concerning for rotator cuff tendinopathy and was treated with subacromial injection of **2cc 1% lidocaine and 80mg methylprednisolone** and physical therapy.

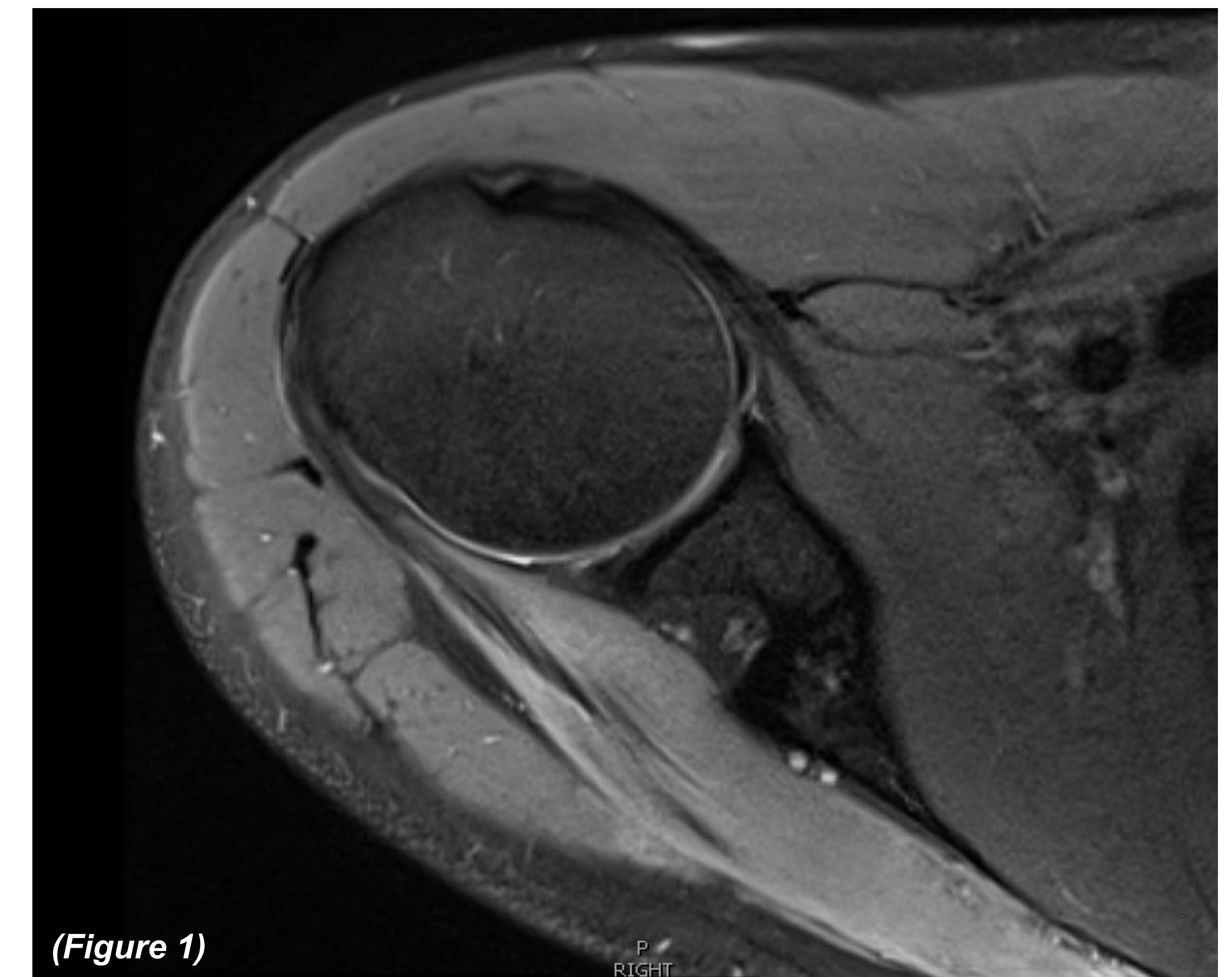
FOLLOW-UP PRESENTATION

Although the pain resolved 3 months later, he failed to regain full right upper extremity strength. The patient subsequently presented to a PM&R sports medicine physician who obtained an MRI of the shoulder and neck after noting new numbness in his index finger and 3/5 weakness with external rotation.

Shoulder MRI (*Figure 1*) showed **diffuse supraspinatus and infraspinatus edema** without a clear source of suprascapular or spinoglenoid notch impingement, posing concern for denervation in the setting of Parsonage-Turner syndrome. Cervical MRI showed degenerative disc disease and facet arthropathy at C6-7 with moderate-to-severe right foraminal stenosis.

At this time, he was referred to pain management for consideration of epidural steroid injection. He denied pain at this point, reporting 0/10 on the verbal rating scale (VRS). Right shoulder exam at that time was notable for:

- Atrophy of supraspinatus and infraspinatus
- 3/5 external rotation.
- Full range of motion
- Sensation fully intact in C5, C6, C7, C8, and T1



(Figure 1)

CONCLUSIONS

This case describes a unique presentation of suprascapular neuropathy mimicking the clinical course of Parsonage-Turner Syndrome. Possible cervical radiculopathy (in the setting of foraminal stenosis of C6) complicated the picture particularly given that the suprascapular nerve receives contributions from C5 and C6. However, isolated weakness with diffuse edema of the supraspinatus and infraspinatus would not be expected in an isolated C6 radiculopathy. It is therefore unlikely that a cervical ESI would have helped this patient without pain. This case highlights the importance of imaging and clinical correlation, as they frequently confound diagnoses. It is prudent to consider a broad differential diagnoses and utilize a variety of available diagnostic tools, even in otherwise young and healthy individuals.

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Needle EMG Examination

Muscle	Spontaneous Insertional	Fib	PSW	Fasc	Volitional MUAPs Dur.	Amp	Poly.	Recruitment Pattern	Effort
R. Deltoid	Normal	None	None	None	Normal	Normal	Few	Full	Max
R. Deltoid (posterior)	Normal	None	None	None	Normal	Normal	Few	Full	Max
R. Supraspinatus	Normal	None	None	None	Normal	Normal	Few	Full	Max
R. Infraspinatus	mildly reduced	4+	4+	None	Normal	Normal	Few	Reduced	Max
R. Triceps brachii	Normal	None	None	None	Normal	Normal	Few	Full	Max
R. Biceps brachii	Normal	None	None	None	Normal	Normal	Few	Full	Max
R. Extensor digitorum communis	Normal	None	None	None	Normal	Normal	Few	Full	Max
R. Brachioradialis	Normal	None	None	None	Normal	Normal	Few	Full	Max
R. Flexor carpi radialis	Normal	None	None	None	Normal	Normal	Few	Full	Max
R. First dorsal interosseous	Normal	None	None	None	Normal	Normal	Few	Full	Max
R. Abductor pollicis brevis	Normal	None	None	None	Normal	Normal	Few	Full	Max
R. Cervical paraspinals	Normal	None	None	None	Normal	Normal	Few	Full	Max

(Figure 2)

EMG DIAGNOSTICS

Given the atrophy and edema on MRI, Parsonage-Turner syndrome was suspected. He was referred for EMG/NCS (*Figure 2*) and instructed to continue his heme exercise and physical therapy programs for rotator cuff strengthening. NCS/EMG showed isolated suprascapular nerve neuropathy supported by fibrillations and positive sharp waves in the infraspinatus muscle with reduced recruitment. **No evidence of cervical paraspinal involvement, sensory abnormality or brachial plexopathy** was noted on NCS/EMG. Given the absence of pain, this patient was simply continued with PT to focus on rotator cuff strengthening and continues to improve.