# Atrophy Absent: A Case of Atypical Parsonage Turner Syndrome

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## INTRODUCTION

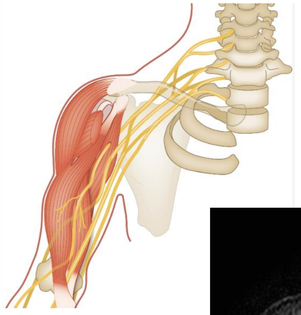
Parsonage-Turner syndrome (PTS), or neurologic amyotrophy, classically presents with acute shoulder pain followed by patchy weakness and progressive denervation atrophy on MRI. We present a patient with chronic post-cervical-laminoplasty neck and arm pain who developed right shoulder pain and restricted motion, ultimately attributed to a PTS-pattern of muscle edema without atrophy, complicated by secondary adhesive capsulitis. This atypical presentation, combined with overlapping post-surgical neuropathic pain, illustrates a diagnostic challenge to our field.

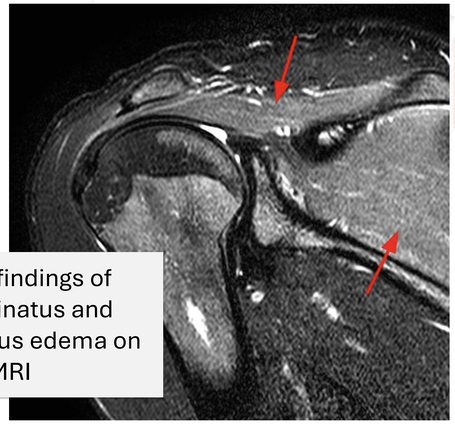
## CASE PRESENTATION

A less recognized variant of Parsonage-Turner syndrome involves edema without atrophy, as seen here, which may reflect early or evolving disease. Adhesive capsulitis frequently develops secondarily when pain-limited immobility follows a primary neurologic insult, further complicating diagnosis and treatment. This 56-year-old woman with prior C3 laminectomy and C4–6 laminoplasty for cervical stenosis presented with chronic right neck, shoulder, and arm pain, with numbness in the second and third digits and sleep disturbance.

Examination revealed restricted right shoulder forward elevation (140˚), abduction (130˚), and external rotation (30–40˚) compared with the left, with preserved strength, reflexes, and sensation. Muscle bulk appeared to be normal. Review of cervical MRI findings reinforced the possibility of residual myelomalacia-related pain, with C3-C6 cord impingement and cord signal abnormality.
However, these findings were pre-laminoplasty. Right shoulder MRI demonstrated diffuse infraspinatus, partial superior deltoid, and partial supraspinatus edema without atrophy and possible subdeltoid bursal fibrosis.

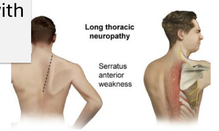
## IMAGING





Classic findings of supraspinatus and infraspinatus edema on MRI

Typical parsonage turner syndrome with atrophy










## MATERIALS AND METHODS

Verbal informed consent was obtained after detailed discussion of case report process and publishing, with documentation completed. Cervical spine MRI (obtained pre-laminoplasty) and right shoulder MRI were reviewed to differentiate between residual cervical pathology and a primary shoulder process. Laboratory studies were reviewed to exclude contributing metabolic or hematologic factors.

## DISCUSSION

Findings raised concern for Parsonage-Turner syndrome, as shoulder MRI displayed the characteristic pattern of muscular edema. With the fibrosis indicating superimposed adhesive capsulitis. Given failure of conservative therapy, the patient was scheduled for percutaneous release of the coracohumeral ligament and rotator interval for adhesive capsulitis, along with referral for electromyography to further characterize suspected Parsonage-Turner syndrome.

## CONCLUSION

This case highlights an atypical, edema-predominant presentation of Parsonage-Turner syndrome without atrophy, compounded by secondary adhesive capsulitis and antecedent cervical spine pathology. Multimodal evaluation was essential to guide management. Pain physicians should maintain a broad differential for post-surgical shoulder pain and consider PTS even when the classic atrophy is absent. Further research into atrophy-negative PTS variants and optimal multidisciplinary pain management is warranted.

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