

# A RARE CASE OF PARSONAGE-TURNER SYNDROME INVOLVING ONLY THE RADIAL NERVE

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## Background

Parsonage-Turner Syndrome (PTS) is a rare neurological disorder characterized by sudden onset of severe shoulder pain followed by progressive motor and sensory deficits, primarily affecting the upper limbs. Although traditionally considered a proximal brachial plexopathy, involvement of distal or mixed nerves (sensory and motor nerves) is less commonly reported. The syndrome have multifactorial etiologies, including autoimmune mechanisms, infections, trauma, and post-vaccination responses. Diagnosis is predominantly clinical, supported by electrodiagnostic studies, and management typically involves conservative measures, including pain control and rehabilitation. PTS often remains underdiagnosed, and atypical presentations may further complicate timely recognition.

## Case report

We present the case of a 61-year-old right-handed male with a history of focal epilepsy of vascular origin, presented with sudden right shoulder pain which gradually decreased in intensity and began to exhibit neuropathic features over the course of seven months. Diagnostic workup included EMG and imaging studies. EMG revealed a partial axonal lesion of the right radial nerve. Imaging studies were unremarkable, and viral and immunological tests were negative. The patient showed distal upper limb weakness (wrist and finger extension G 2/5) with preserved proximal strength and hypoesthesia in the dorsal hand. These findings were consistent with PTS. A rehabilitation program was initiated focusing on proprioceptive re-education and strengthening of the wrist and finger extensors. After two months, there was functional improvement, with the Cochin Hand Functional Scale score improving from 81/90 to 59/90.

## Conclusion

This case highlights a rare presentation of Parsonage-Turner Syndrome with exclusive radial nerve involvement. Clinicians should maintain a high index of suspicion for PTS in patients presenting with distal upper limb weakness and sensory changes preceded by severe pain, even when classical proximal nerve involvement is absent. Early recognition and a multidisciplinary approach, including targeted rehabilitation, are crucial for optimizing functional recovery and minimizing long-term disability.

**Keywords:** Parsonage-Turner Syndrome; radial nerve; rehabilitation