

Introduction

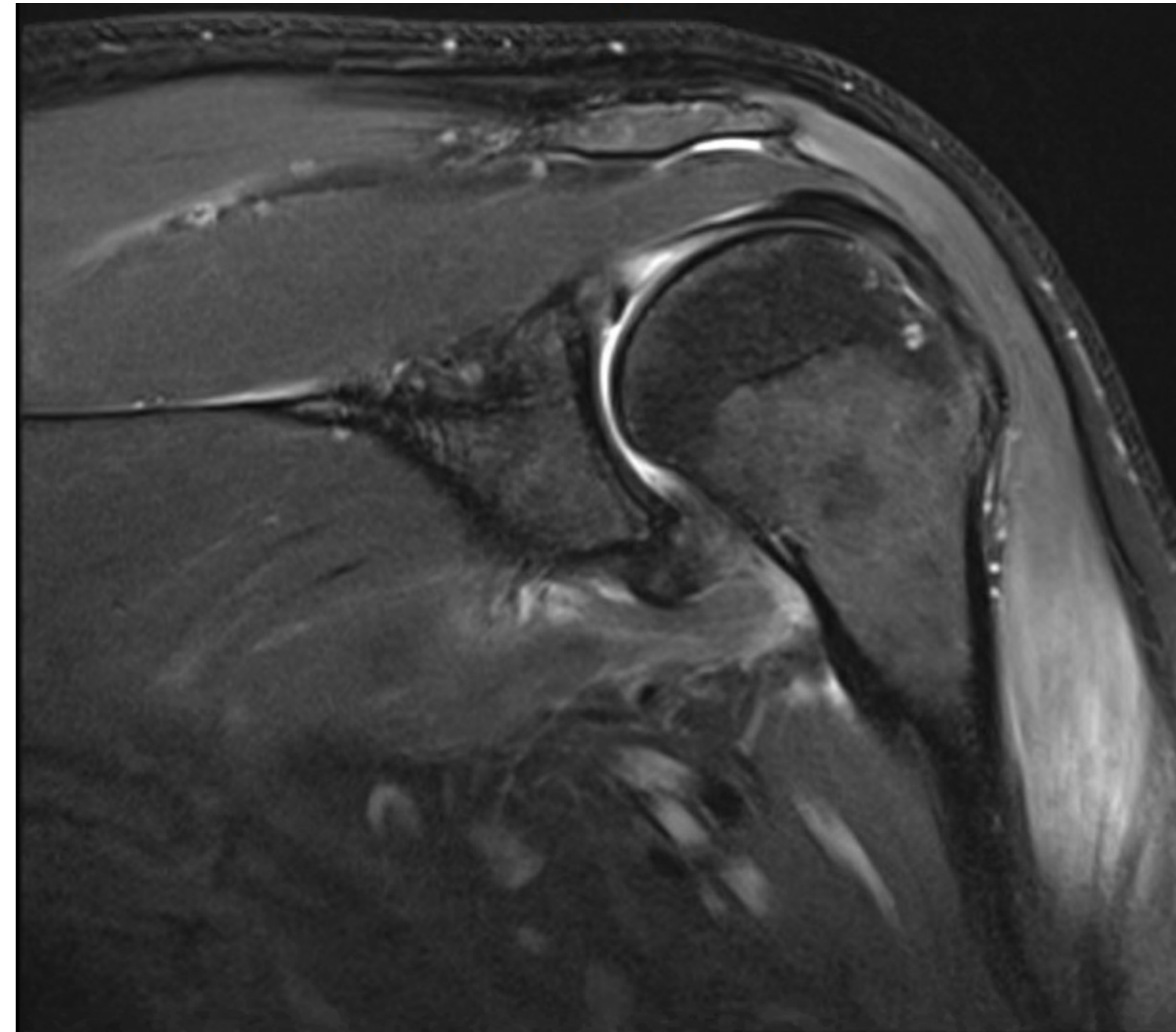
Traumatic brain injury (TBI) is commonly complicated by the development of chronic pain syndromes. Among the civilian patient population with TBI, the incidence of chronic pain is 51.5%³. One etiology of chronic pain, complex regional pain syndrome (CRPS), requires a combination of early detection, interdisciplinary approaches, and interventional management for optimal treatment. This case outlines the management of a functionally limited TBI/CRPS patient who required a stellate ganglion block during his stay in acute inpatient rehabilitation.

Presentation

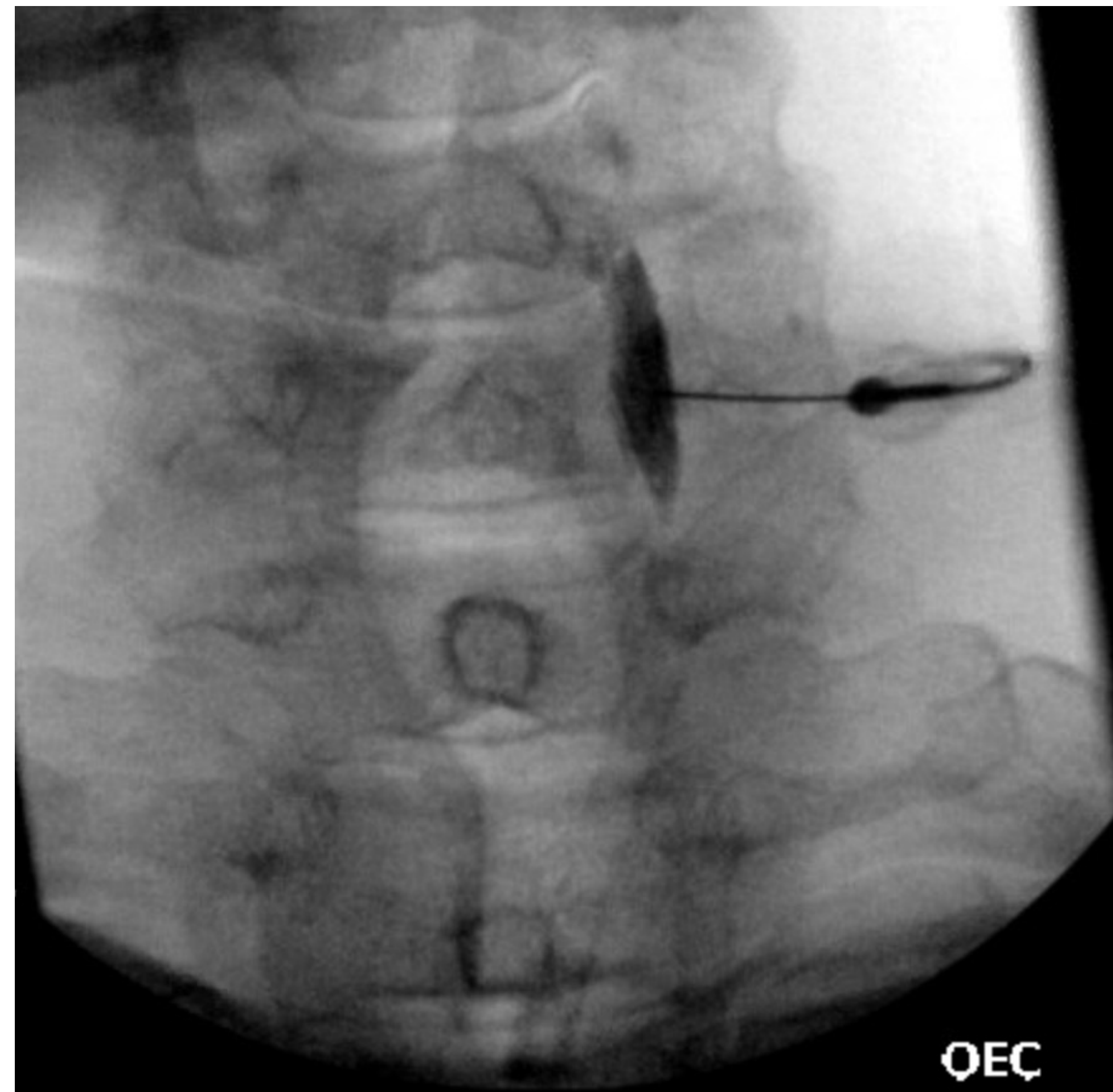
A 46 year old male with no past medical history presented to an acute inpatient rehabilitation hospital after sustaining a TBI and subarachnoid hemorrhage from falling 25 feet off of a ladder approximately 6 weeks earlier. Concomitant injuries included transverse process fractures, left rib fractures, a left temporal bone fracture, and a right scapular fracture. No neurosurgical intervention was performed.

Hospital Course

On admission to rehabilitation, the patient endorsed diffuse burning pain and allodynia throughout his left upper extremity. Muscle strength testing revealed 4/5 strength in left shoulder abductors, and 1-2/5 strength in the distal left limb. Gabapentin was increased to max dosage. An oral methylprednisolone taper did not give significant improvement. 10/10 pain was impeding his participation in therapy as well as his cognitive recovery due to his anxiety and inability to sleep. Electromyography and MRI of the left brachial plexus revealed diffuse asymmetric thickening consistent with a left brachial plexopathy. Due to this complicated presentation, a pain medicine consult was obtained and the diagnosis of CRPS type II was confirmed based on Budapest criteria.



Significant Axillary Nerve Edema



Left Stellate Ganglion Block with Bupivacaine

Intervention

The patient was switched from gabapentin to pregabalin and started on amitriptyline. Due to the functionally limiting nature of his symptoms, the decision was made to proceed with a left stellate ganglion block with bupivacaine which was cleared by the patient's Worker's Compensation Commission. The patient's pre-procedure pain of 10/10 had dropped to 1/10 following intervention. He was weaned off his as-needed oxycodone 4 days following intervention. Increased participation in therapy was also noted by both the therapy team and the patient. On one week follow up, the patient reported 80% pain reduction with improved but persistent numbness as he finished his rehabilitation course.

Discussion

Complex regional pain syndrome can be a difficult complication to manage, especially in the context of traumatic brain injury. Pain can be a significant barrier when the goal is maximizing functional outcomes. When symptoms become limiting in the context of recovery, it is imperative to select the right intervention to match the therapeutic goal. This highlights the utility of interventional pain procedures in acute rehabilitation, especially in the setting of early intervention and recovery for CRPS patients.

References

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3. Nampiaparampil DE. Prevalence of chronic pain after traumatic brain injury: a systematic review. *JAMA.* 2008;300(6):711-719. doi:10.1001/jama.300.6.711