P-144

Spinal epidural hematoma after cervical epidural steroid injection in patient with anticoagulant use

Yongkyun Jung[1*], Jihyun Park[1†], Soo Jin Jung[1], Yeon Jun Kim[1], Yeong Jae Kim[1]

Department of Rehabilitation Medicine, Dongtan Sacred Heart Hospital[1]

INTRODUCTION

Epidural steroid injection is a commonly employed conservative therapy for radicular pain. While generally considered safe, rare complications such as spinal epidural hematoma (SEH) can occur, resulting in acute myelopathy. The incidence of epidural hematoma after an epidural block is rare and may be comparable to the risk of epidural hematoma after epidural anesthesia, where it has been cited as one in 190,000. It has been reported after lumbar puncture, myelography, and epidural anesthesia, usually in conjunction with anticoagulation. We present a rare case of SEH following a cervical transforaminal epidural steroid injection in a 47-year-old man with atrial fibrillation on anticoagulant therapy.

CASE

A 47-year-old male with a history of hypertension, dilated cardiomyopathy (DCMP), and atrial fibrillation on anticoagulant therapy presented with left-sided weakness and dysarthria within 30minutes after a cervical transforaminal epidural steroid injection for chronic Lt. shoulder, arm radicular pain management.

C-spine MRI revealed an epidural hematoma at C3/4 causing compressive myelopathy at the same level (Fig 1). Upon admission, his left-sided motor grade was assessed as Zero. Within 24 hours after onset, He underwent emergent C3/4 laminectomy with hematoma removal (Fig 2).

On POD #1, his left upper and lower extremities motor grades improved to Trace and Good, respectively. Within 72hrs after surgery, he started early rehabilitation therapy. He demonstrated significant improvement in left-sided motor grades and activities of daily living (ADLs) during 4 months of rehabilitation. (Table 1)

One month after the onset, the first nerve conduction study and electromyography (NCS/EMG) were done and were suggestive of cervical myelopathy and left multi-level (C5, C6, C7, C8, T1) cervical radiculopathy. Three months after the onset, the second NCS/EMG was conducted and showed partial recovery of multi-level cervical radiculopathy and myelopathy. (Table 1)

Manual muscle test							
	9/22	9/23	10/5	10/26	11/23	12/22	1/8
U/E							
shoulder abductor	5/0	5/1	5/2	5/2	5/3	5/4	5/4
elbow flexor	5/0	5/1	5/2	5/3	5/3	5/3	5/4
wrist extensor	5/0	5/1	5/2	5/3	5/4	5/4	5/4
elbow extensor	5/0	5/1	5/2	5/3	5/4	5/4	5/4
finger flexor	5/0	5/1	5/2	5/3	5/4	5/4	5/4
finger abductor	5/0	5/1	5/1	5/3	5/4	5/4	5/4
L/E							
Hip flexor	5/0	5/4	5/4	5/4	5/4	5/4	5/4
Knee extensor	5/0	5/4	5/4	5/4	5/4	5/4	5/4
Ankle dorsiflexor	5/0	5/4	5/4	5/4	5/4	5/4	5/4
Long toe extensor	5/0	5/4	5/4	5/4	5/4	5/4	5/4
Ankle platarflexor	5/0	5/4	5/4	5/4	5/4	5/4	5/4

Activities of Daily Living (ADLs) : Korean Modified Barthel Index (K-MBI)				
9/26	10/30	11/27	12/18	1/8
14	89	96	97	97

NCS : CMAP amplitude (mV)		
Nerve	23/10/24	23/12/12
Left Axillary	5.1	6.7
Left Musculocutaneous	2.7	8.0
EMG : Interference pattern		
Muscle	23/10/24	23/12/12
Lt. APB	Reduced to complete	Complete
Lt. FDI	Reduced	Complete
Lt. EIP	Reduced	Complete
Lt. FCU	Reduced	Complete
Lt. Deltoid	Reduced	Reduced to complete
Lt. FCR	Reduced	Reduced to complete
Lt. Triceps	Reduced	Reduced to complete
Lt. Biceps	Discrete	Reduced to complete

Table 1. There were significant improvements in left-sided motor grades and activities of daily living (ADLs) during 4 months of rehabilitation. Besides, POD 1 month and POD 3 months NCS/EMG showed partial recovery of multi-level cervical radiculopathy and myelopathy.

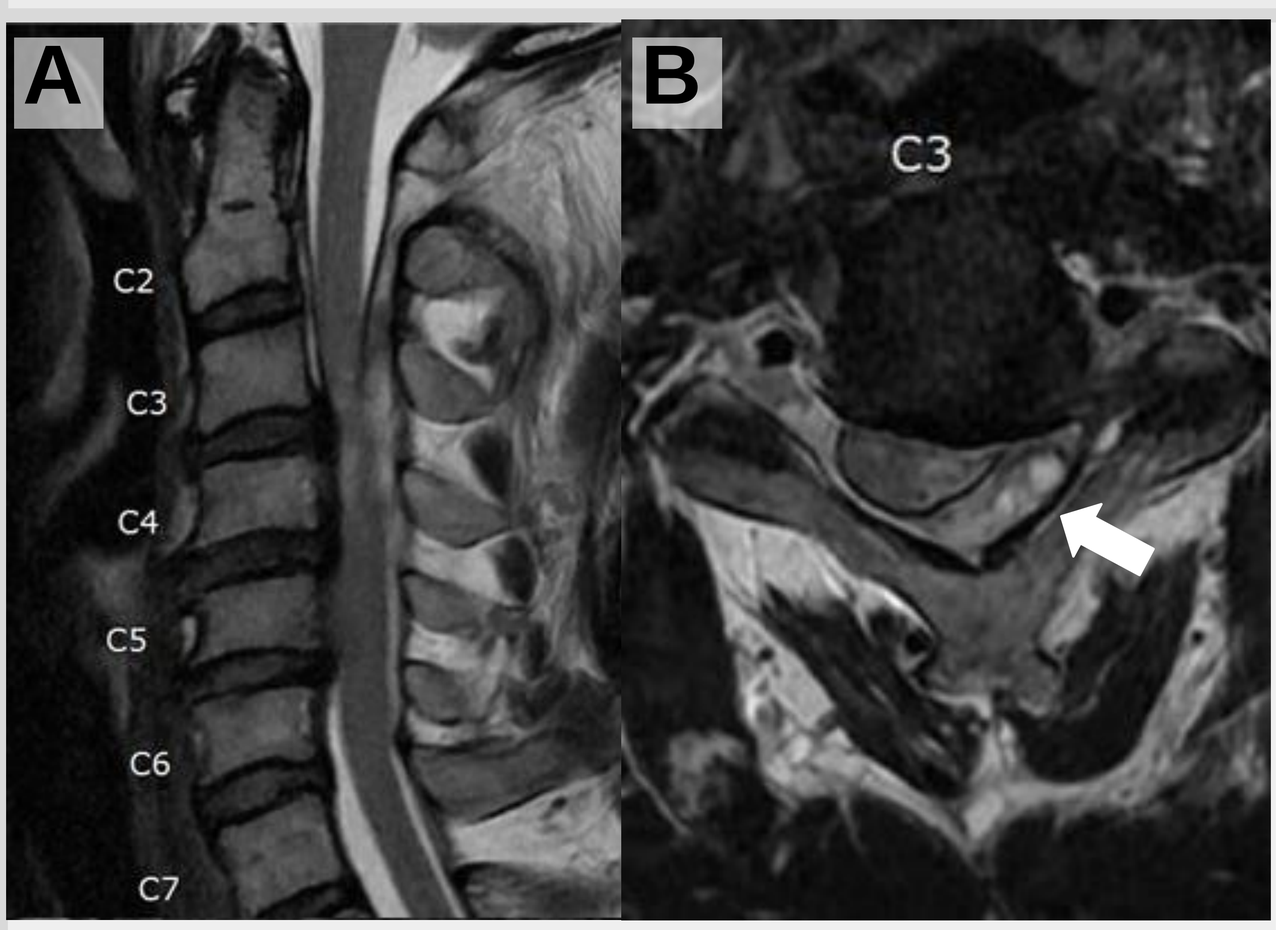

Fig. 1 Pre-OP C-spine Magnetic Resonance Imaging (MRI) T2-Sagittal (A), and T2-Transverse (B) images showed Compressive myelopathy at C3-4 levels due to posterior epidural hematoma (white arrow)

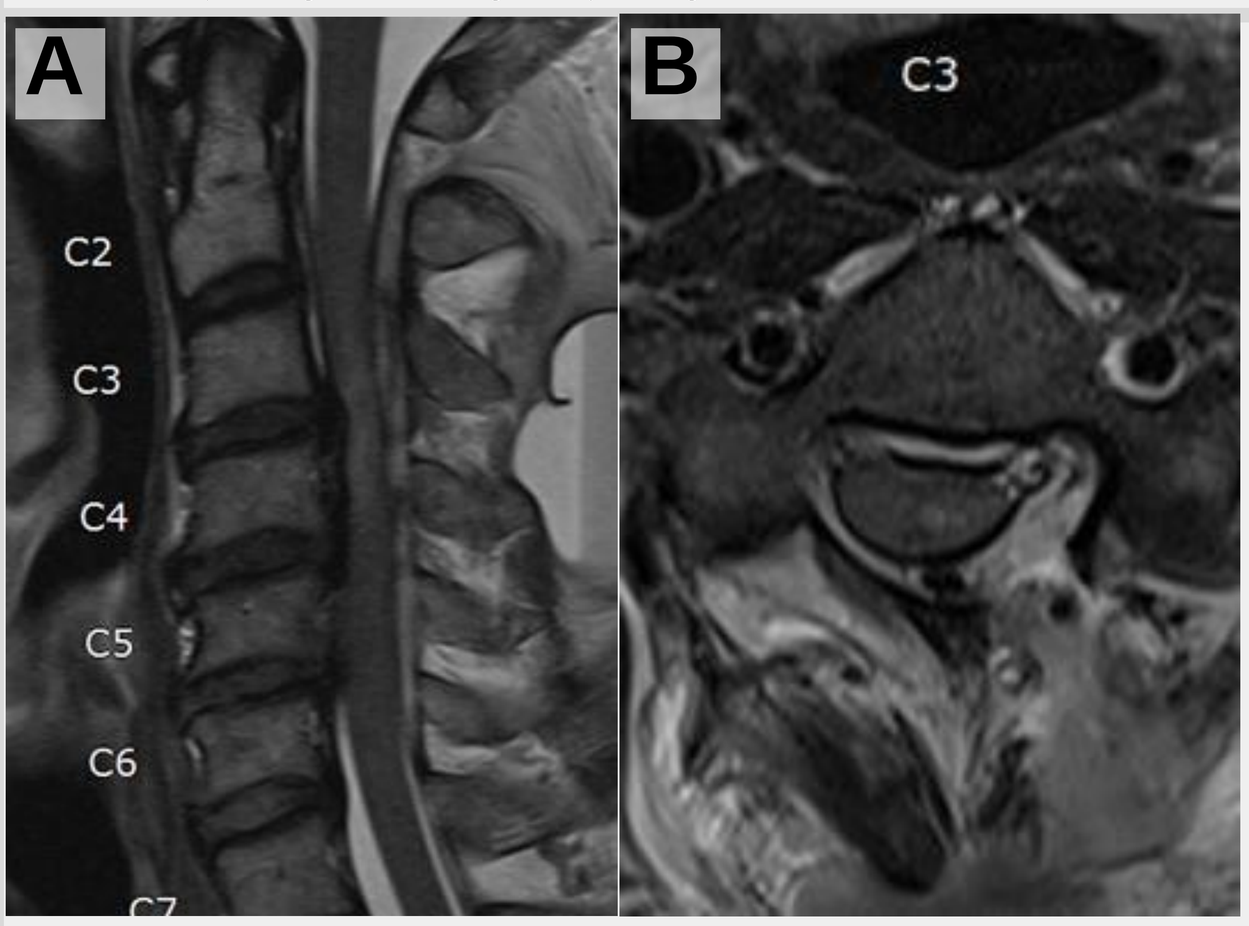

Fig. 2 Post-OP C-spine MRI T2-Sagittal (A), and T2-Transverse (B) images showed improved state of central canal stenosis at C3-4 levels compared to Fig 1

CONCLUSION

This case underscores the imperative for clinicians to undertake a thorough evaluation before administering epidural steroid injections encompassing a detailed physical examination, simple laboratory tests, and comprehensive history-taking.

Early detection remains crucial, particularly in patients with predisposing factors like anticoagulant use. Close monitoring and prompt intervention are essential to minimize complications.

Moreover, beyond acute management, the early integration of rehabilitation therapy is pivotal for enhancing patient function and overall quality of life.