

A Rare Case of Myeloradiculitis with Positive Antinuclear Antibody and Toxocariasis

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Introduction

Myelitis affects the spinal cord, causing motor weakness, sensory deficits and autonomic dysfunction according to involved level. Identifying the underlying causes can be challenging. In this case report, we highlight a rare instance of a patient with myeloradiculitis with toxocariasis, emphasizing the importance of recognizing and addressing coexisting neurological conditions.

Case

A 69-year-old female visited to the emergency room the day after experiencing dizziness, along with hypoesthesia in both posterior lower legs. At the first visit, the patient declined spine MRI and opted for admission to another hospital. However, the following day, she returned to the emergency room with hypoesthesia in the L5-S5 dermatomes, progressive motor weakness in both lower limbs, urinary retention, and constipation. Spine MRI showed focal linear enhancement at the T12-L1 level of the spinal cord (Figure 1). She was suggested with acute transverse myelitis and treated with methylprednisolone (1g for 5 days). On hospital day 6, a follow-up MRI revealed segmental swelling with enhancement at the central spinal cord/conus medullaris (T11-L1 level) (Figure 1). She received physical therapy with the maintenance of prednisolone. On the other hand, DTRs were decreased bilaterally. Initial CSF analysis showed an RBC count of 1/mm³, WBC count of 1/mm³, protein level of 56.7mg/dL, and glucose level of 70mg/dL. She was suggested with polyradiculopathy or AMAN, and IV immunoglobulin was administered for 5 days. Also, positive antinuclear antibody (1:40) and toxocariasis were detected, leading to treatment with albendazole. By hospital day 17, she was transferred to the Department of Physical and Rehabilitation Medicine (PRM), and somatosensory evoked potential on hospital day 18 showed no response in bilateral posterior tibial nerves stimulation. Nerve conduction study (NCS) on hospital day 40 revealed a delayed distal motor latency, decreased CMAP amplitude, decreased motor conduction velocity in bilateral posterior tibial nerve and absent in bilateral peroneal nerve (Table 1). The F wave & H reflex of the bilateral posterior tibial nerve also showed no response. But sensory nerve conduction study was all within normal limit. In upper limbs, all NCS was within normal limit. Needle Electromyography (EMG) revealed denervation potentials and polyphasic motor unit action potentials were seen at bilateral lower extremity muscles. The above findings are compatible with multiple lumbosacral radiculopathy with myelopathy. After physical therapy, including electrical stimulation therapy, the patient showed some improvement in neurological findings. (Table 2).

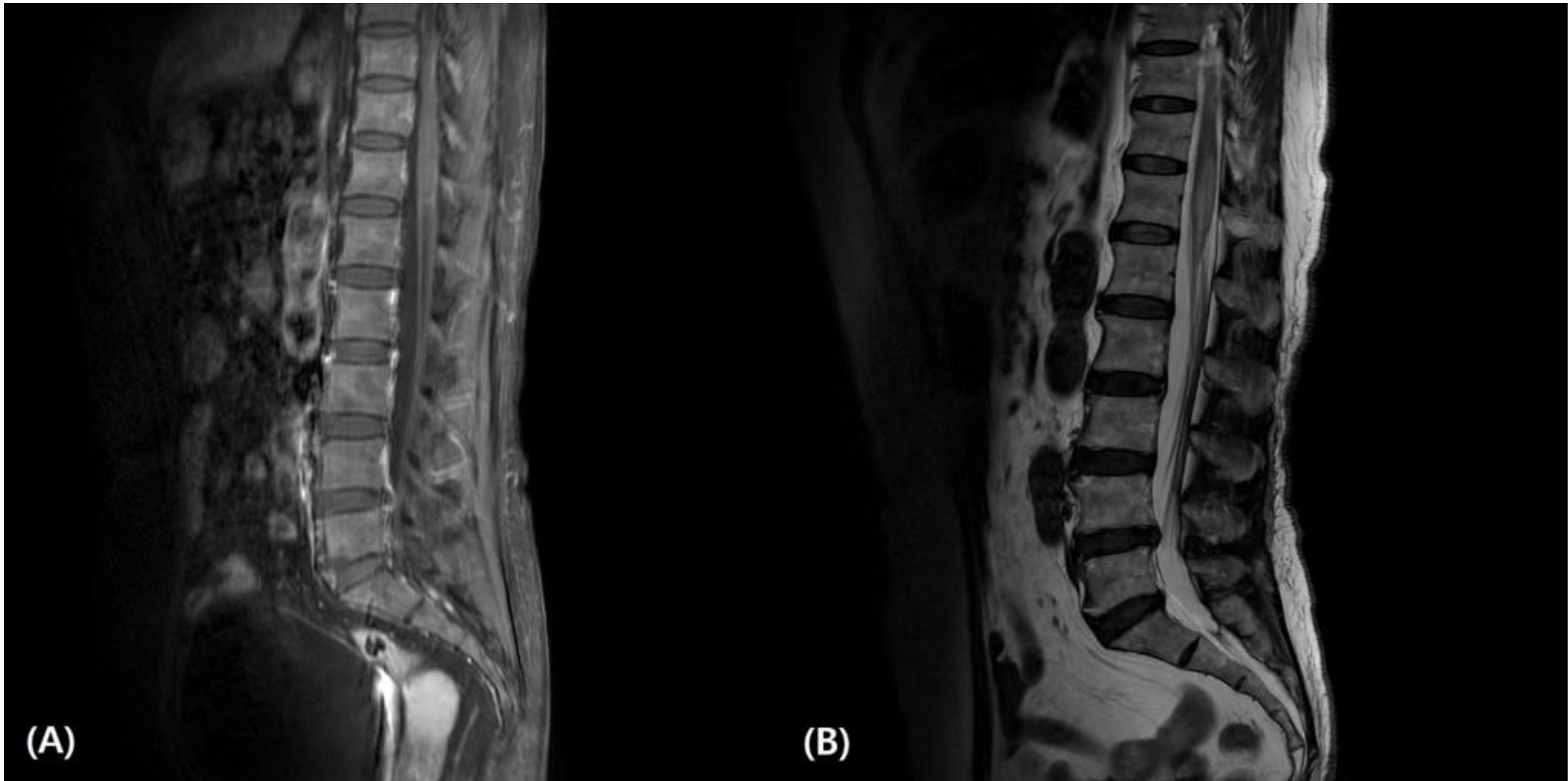


Figure 1. MRI revealed focal linear enhancement at the T12-L1 level of the spinal cord (A) and segmental swelling with enhancement at the central spinal cord/conus medullaris, T11-L1 level (B)

Table 1. Results of Nerve conduction study

Motor nerve conduction study								
	Right				Left			
	Latency(ms)	Amplitude(mv)	Conduction velocity(m/s)	F-wave latency(ms)	Latency(ms)	Amplitude(mv)	Conduction velocity(m/s)	F-wave latency(ms)
Median	2.83/6.83	7.1/6.9	55.0	22.3				
Ulnar	2.67/6.42	9.9/8.5	58.7	23.6				
Peroneal – EDB, TA	NR*	NR*	NR*	NR*	NR*	NR*	NR*	NR*
Tibial	6.40*/18.35*	0.2*/0.2*	33.4*	NR*	6.75*/18.46*	0.1*/0.1*	33.3*	NR*
Sensory nerve conduction study								
	Right			Left				
	Latency(ms)	Amplitude(uv)	Conduction velocity(m/s)	Latency(ms)	Amplitude(uv)	Conduction velocity(m/s)		
Median	3.35	34.2	41.7					
Ulnar	3.48	18.3	40.2					
Superficial Peroneal	3.83	5.8	36.5	3.88	6.0	36.1		
Sural	3.46	10.4	40.5	3.19	10.0	43.9		

*: Abnormal data, NR: No response, EDB: Extensor digitorum brevis muscle, TA: Tibialis anterior muscle

Table 2. Changes in MRC scores in the patient

	HD 6 (At the start of physical therapy)		HD 17 (At the time of transfer to PRM)		HD 53 (At discharge)	
	Right	Left	Right	Left	Right	Left
Hip flexor	2	2	3	2	4	4
Knee extensor	2	2	4	4	4	4
Ankle dorsi flexor	0	0	0	1	1	1
Great toe dorsi flexor	0	0	0	0	0	0
Ankle plantar flexor	0	0	0	0	0	0

HD: Hospital day, PRM: Department of Physical and Rehabilitation Medicine

Conclusion

We report a rare case of myeloradiculitis with positive antinuclear antibody and toxocariasis. Clinicians should be aware that patients with confirmed spinal cord lesions may have coexisting neurological abnormalities. Performing NCS/EMG to rule out overlapping peripheral neurological disorders is recommended.