The Great Masquerader: Lyme Disease Mimicking Radiculopathy

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The Great Masquerader: Lyme Disease Mimicking Radiculopathy

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Setting

Outpatient office

Patient

70-year-old male with past medical history of hypertension and fibromyalgia

Case Description

The patient presented with right greater than left lower back pain and bilateral leg pain, numbness, and weakness progressing over one week following a three-day illness consisting of nausea, diarrhea, fevers, and chills two weeks prior.

On exam, his gait was asymmetric and antalgic bilaterally with Trendelenburg gait pattern. Lumbar range of motion was limited in all directions due to pain. Muscle strength testing showed bilateral 4/5 strength with dorsiflexion of the foot and 4-/5 strength extension of the big toe, with the right being slightly weaker than the left. Strength of all remaining muscle groups were preserved with 5/5 strength. Sitting slump maneuver was positive bilaterally, and muscle bulk and tone were normal. On neurologic exam, coordination was normal. Examination of deep tendon reflexes revealed 0-1/4 bilateral patellar and achilles reflexes. Sensation was subjectively decreased bilaterally in an L5/S1 distribution, and grossly intact elsewhere.

The patient received an MRI and results were significant for severe central spinal canal stenosis with bilateral lateral recess stenosis at L4-L5. Fluoroscopically guided, contrast enhanced, caudal epidural steroid injection was then performed. After lack of improvement, further laboratory work-up revealed a positive Lyme antibody profile. EMG was then performed and demonstrated acute on chronic, severe, combined axonal (predominant) and demyelinating, sensorimotor polyneuropathy in the bilateral lower extremities.

MNC

Nerve/Sites	Muscle	Latency ms	Amplitude mv	Segments	Lat Diff ms	Distance mm	Velocity m/s
L Peroneal – EDB							
Ankle	EDB	NR	NR	Ankle – EDB		90	
				Pop fossa – Ankle	NR		
R Peroneal.- EDB							
Ankle	EDB	8.13	1.0	Ankle – EDB		90	
Fib head	EDB	18.28	0.6	Fib head – Ankle	10.16	330	32.5
Pop fossa	EDB	20.05	0.5	Pop fossa – Fib head	1.77	101 0	.56.5
				Pop fossa – Ankle	11.93		
L Tibial -AH							
Ankle	AH	6.56	0.5	Ankle- AH		90	
Pop fossa	AH	18.70	0.3	Pop fossa – Ankle	12.14	420	34.6
R Tibial – AH							
Ankle	AH	5.36	0.4	Ankle- AH		90	
Pop fossa	AH	13.85	0.5	Pop fossa – Ankle	8.49	440	51.8
L Peroneal – Tib Ant							
Fib Head	Tib Ant	3..91	1.3	Fib Head – Tib Ant		100	
Pop fossa	Tib Ant	6.20	0.4	Pop fossa – Fib Head	2.29	120	52.4
R Peroneal – Tib Ant							
Fib Head	Tib Ant	4.43	1.7	Fib Head – Tib Ant		100	
Pop fossa	Tib Ant	6.67	2.2	Pop fossa – Fib Head	2.24	100	44.7

SNC

Nerve/Sites	Rec. Site	Lat ms	Peak Lat ms	Amp pV	Segments	Onset Dif ms	Peak Diff ms	Distance mm	Onset Vel m/s
R Radial – anatomical snuff box (forearm)									
Forearm	Wrist	1.82	2.45	8.4	Forearm – Wrist	1 .82	2.45	1.00	54 .9
L Sural – Ankle (Calf)									
Calf	Ankle	NR	NR	NR	Calf – Ankle	NR	NR	140	NR
R. Sural – Ankle (Calf)									
Calf	Ankle	5 .94	7.19	9.6	Calf – Ankle	5.94	7.19	140	23.6
L Superficial peroneal – Ankle									
Lat leg	Ankle	NR	NR	NR	Lat leg – ankle	NR	NR	140	NR
R. Superficial peroneal – Ankle									
Lat leg	Ankle	NR	NR	NR	Lat leg – Ankle	NR	NR	140	NR

Assessment/Results

Accurate diagnosis of the patient's underlying condition resulted in the appropriate treatment with a 21-day course of oral doxycycline 200mg twice daily. The patient experienced a significant reduction in pain and was able to return to normal function.

Discussion

This is a rare case of Lyme radiculopathy presenting with bilateral symptoms that has been documented to occur in only 3% of CDC documented Lyme cases. There is excellent prognosis for therapy once identified, with acute cases resolving more rapidly than chronic cases.

Conclusion

Lyme radiculoneuropathy should be considered in patients in endemic areas in Spring and Autumn when presenting with truncal or limb pain without an apparent mechanical cause.

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