



Stepping Into Trouble: Foot Drop Following an Acetabular Fracture

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Case Presentation

53-year-old male sustained a mechanical fall while ambulating across a set of train tracks. He subsequently developed severe pain in his left hip which reportedly radiated distally. He was then transported to the emergency department where imaging then revealed a comminuted and displaced left acetabular fracture extending into the iliac wing and a left superior pubic ramus fracture with minimally displaced left inferior pubic ramus fracture. Imaging was unrevealing of axial injury. He was evaluated by orthopedics and recommended for surgical fixation. He subsequently underwent open reduction and internal fixation of the left acetabulum using the ilioinguinal approach. Post-operatively he continued to experience left lower extremity (LLE) pain initiating in his left hip region with radiation down the posterolateral aspect of his LLE and terminating over the dorsum of his left foot. Pain was described as burning in nature. Additionally, he was noted to have diminished motor strength of the extensor hallucis longus and tibialis anterior.

References

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2. Issack PS, Helfet DL. Sciatic nerve injury associated with acetabular fractures. HSS J. 2009 Feb;5(1):12-8. doi: 10.1007/s11420-008-9099-y. Epub 2008 Dec 17. PMID: 19089496; PMCID: PMC2642541.

Assessment

He was initiated on a regimen of Duloxetine and Gabapentin with Tramadol used for breakthrough pain which provided an improved level of pain control. However, his distal LLE weakness persisted. He later presented for electrodiagnostic study to evaluate the presence of peripheral neuropathy versus lumbosacral radiculopathy. Electrodiagnostics revealed evidence of a left sided sciatic neuropathy involving the peroneal nerve fibers more than the tibial nerve fibers. The electromyographic (EMG) needle study revealed left tibialis anterior increased insertional activity, moderately increased spontaneous activity, increased polyphasic potentials, and early recruitment. There was no evidence of lumbosacral radiculopathy identified during the study.

Stim Site	NR	Onset (ms)	Norm Onset (ms)	O-P Amp (mV)	Norm O-P Amp	Neg Dur (ms)	Neg Area (mVms)	Site1	Site2	Delta-0 (ms)	Dist (cm)	Vel (m/s)	Norm Vel (m/s)
Left Lateral Plantar Motor (ADM)													
Med Mall		5.6	<4.9	7.4		4.69	16.58						
1		5.5		7.0		4.06	15.22						
Right Lateral Plantar Motor (ADM)													
Med Mall		4.7	<4.9	7.5		4.22	14.36						
Left Medial Plantar Motor (AHB)													
Med Mall		5.5	<4.8	8.4		4.22	17.13						
1		5.6		8.9		4.22	17.54						
Right Medial Plantar Motor (AHB)													
Med Mall		4.7	<4.8	13.7		4.06	21.51						
Left Peroneal Motor (Ext Dig Brev)													
Ankle	NR		<5.5		>2.5			B Fib	Ankle		30.0		>40
B Fib	NR							Poplit	B Fib		9.0		>40
Poplit	NR												
Right Peroneal Motor (Ext Dig Brev)													
Ankle		3.4	<5.5	2.7	>2.5	6.56	8.31	B Fib	Ankle	7.4	31.0	42	>40
B Fib		10.8		2.1		6.56	6.95	Poplit	B Fib	1.9	9.0	47	>40
Poplit		12.7		3.6		5.78	9.78						
Left Peroneal TA Motor (Tib Ant)													
Fib Hd		2.0		0.3	>2.5	2.97	0.58	Poplit	Fib Hd	2.1	0.0		>40.0
Poplit		4.1		0.3		3.44	0.61						
Right Sciatic Motor (ADQ)													
Poplit		17.2		0.1		14.06	0.38	Glut	Poplit	23.6	0.0		>40.0
Glut		40.8		5.9		-20.94							
Left Tibial Motor (Abd Hall Brev)													
Ankle		6.3	<6.0	6.8	>3.0	3.28	11.40	Poplit	Ankle	9.3	37.0	40	>40
Poplit		15.6		3.8		3.75	7.12						
Right Tibial Motor (Abd Hall Brev)													
Ankle		5.0	<6.0	11.1	>3.0	3.75	16.76	Poplit	Ankle	8.3	37.5	45	>40
Poplit		13.3		8.2		4.69	15.71						

Side	Muscle	Nerve	Root	Ins Act	Fibs	Psw	Amp	Dur	Poly	Fascic	Recrt	Int Pat	Comment
Left	Peroneus Long	Sup Br Peron	L5-S1	Inc	0	2+	Nml	Nml	Nml	0	Nml	Nml	
Left	BicepsFemS	Sciatic	L5-S1	Nml	1+	1+	Nml	Nml	Nml	0	Nml	Nml	
Left	BicepsFemL	Sciatic	L5-S2	Nml	2+	2+	Nml	Nml	Nml	0	Nml	Nml	
Left	MedGastroc	Tibial	S1-2	Inc	1+	2+	Nml	Nml	Nml	0	Nml	Nml	
Left	AntTibialis	Dp Br Peron	L4-5	Inc	1+	2+	Nml	Nml	Inc	0	Early	Nml	
Left	VastusMed	Femoral	L2-4	Nml	0	0	Nml	Nml	Nml	0	Nml	Nml	
Left	L4 Parasp	Rami	L4	Nml	0	0	Nml	Nml	Nml	0	Nml	Nml	
Left	L5 Parasp	Rami	L5	Nml	0	0	Nml	Nml	Nml	0	Nml	Nml	
Left	S1 Parasp	Rami	S1	Nml	0	0							
Right	L4 Parasp	Rami	L4	Nml	0	0	Nml	Nml	Nml	0	Nml	Nml	
Right	L5 Parasp	Rami	L5	Nml	0	0	Nml	Nml	Nml	0	Nml	Nml	
Right	S1 Parasp	Rami	S1	Nml	0	0	Nml	Nml	Nml	0	Nml	Nml	

