



Foot Drop Following Right Lower Extremity Fasciotomy

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Case Presentation

A 21-year-old male without significant medical history seen at clinic after recent hospitalization for a right lower extremity (RLE) gunshot wound to the upper thigh with pulsatile hemorrhage. Imaging showed arterial extravasation, and the patient underwent right groin exploration with orchiectomy, femoral vein ligation, and RLE four-compartment fasciotomy. At discharge, the patient could ambulate 150 feet supervised with a rolling walker and climb 22 stairs. Bed mobility and all transfers were independent, however, he had an RLE foot drop requiring a brace.

References

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2. Lezak B, Massel DH, Varacallo M. Peroneal Nerve Injury. [Updated 2024 Feb 25]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2024 Jan-. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK549859/>

Assessment

On initial examination, the patient had well healed surgical scars, edema from the right knee extending to the toes, with mild tenderness to palpation in the calf. Sensation was otherwise diminished in the L2-S2 dermatomes on the right compared to the left. He had significant right foot drop with 1/5 strength on plantarflexion and 3/5 on dorsiflexion, resulting in his gait lacking heel strike on the right. Electromyographic studies showed evidence of axonal neuropathy of the common peroneal nerve with muscle denervation.

Stim Site	NR	Onset (ms)	Norm Onset (ms)	O-P Amp (mV)	Norm O-P Amp	Neg Dur (ms)	Neg Area (mVms)
Left Peroneal Motor (Ext Dig Brev)							
Ankle		3.6	<5.5	4.1	>2.5	6.72	15.00
B Fib		11.7		4.7		6.25	16.07
Poplt		13.4		3.8		5.16	9.58
Right Peroneal Motor (Ext Dig Brev)							
Ankle	NR		<5.5		>2.5		
B Fib	NR						
Poplt	NR						

Side	Muscle	Nerve	Root	Ins Act	Fibs	Psw
Right	MedGastroc	Tibial	S1-2	Nml	0	0
Right	AntTibialis	Dp Br Peron	L4-5	Inc	0	3+
Right	VastusMed	Femoral	L2-4	Nml	0	0
Right	BicepsFemS	Sciatic	L5-S1	Nml	0	0

Discussion

Common peroneal nerve injury can occur with both traumatic and atraumatic causes. Standard-of-care is conservative, employing orthotics and physical therapy (PT). Our patient received ankle-foot orthotics and was prescribed twice weekly PT with gait training. He was also educated on home exercise therapy and continued strength-building exercises at a gym. While in certain cases surgical intervention has successfully treated peroneal nerve compression, our patient demonstrated remarkable improvement with conservative treatment.

Conclusion

Foot drop is a well-documented complication following lower extremity fasciotomy and traumatic compartment syndrome and can prolong post-surgical recovery for patients. Implementing a multidisciplinary approach including PT, bracing, and medical management can significantly improve patients' quality of life.