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Artish Patel

Beth Stepanczuk MD

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Ischemic Lumbosacral Plexopathy Following Endoleak Repair of the Right Iliac Artery

Patrick Davis, MD, BS, Artish Patel, MD, BS, and Beth Stepanczuk, MD
 University of South Florida Morsani College of Medicine, Tampa, FL and Lehigh Valley Physicians Group Physiatry, Allentown, Pa.

Setting

Acute Inpatient Unit

Patient

87-year-old man with a past medical history of chronic kidney disease, type 2 diabetes, and past aortic aneurysm repair who presented with a continued endoleak of the right iliac artery

Case Description

He underwent a pelvic angiogram with liquid embolization of the right iliolumbar supply. Following the procedure, he began to have L5-S1 myotomal weakness in addition to slight pain stated to encompass the entire right leg. He did not experience motor recovery of the right great toe or right ankle dorsiflexion during his rehabilitation course. He was discharged, requiring a rolling walker with a noted foot drop. Once outpatient, follow up EMG/NCS revealed nonreactive motor studies of the right fibular and tibial nerves. Additionally, there was denervation and reinnervation of several right lower extremity muscle groups. He had experienced no change in the right leg's strength and continued to require a rolling walker for safe mobilization.

Motor Nerve Conduction Study

Nerve and Site	Latency	Amplitude	Segment	Latency Difference	Distance	Conduction Velocity
PERONEAL R						
Ankle	NR ms	NR mV	Ext. digitorum brevis – ankle	ms	80 mm	m/s
TIBIAL R						
Ankle	NR ms	NR mV	Abductor hallucis – ankle	ms	80 mm	m/s
PERONEAL R						
Fibula (head)	NR ms	NR MV	Tibialis anterior – fibula (head)	ms	120 mm	m/s

Sensory Nerve Conduction Study

Nerve and Site	Onset Latency	Peak Latency	Amplitude	Segment	Latency Difference	Distance	Conduction Velocity
SUPERFICIAL PERONEAL R							
Ankle	NR ms	NR ms	NR μ V	Dorsum of foot – ankle	ms	120 mm	m/s
SUPERFICIAL PERONEAL L							
Ankle	NR ms	NR ms	NR μ V	Dorsum of foot – ankle	ms	120 mm	m/s
SURAL R							
Lower leg	NR ms	NR ms	NR μ V	Ankle – lower leg	mm	140 mm	m/s

Discussion

The patient's chronic L5-S1 right leg weakness following endoleak repair of the right iliac artery combined with his EMG/NCS results point towards an ischemic injury of the lumbosacral plexus. Spinal cord ischemia is an exceedingly rare complication of endovascular aneurysm repair for abdominal aortic aneurysm, with an incidence of 0.21 percent per the EUROSTAR database. Data pertaining specifically to the repair of an iliac artery endoleak is sparse, likely due to the rarity of the complication with the rich vascular supply of the lumbosacral plexus. This condition's positive prognosis would be unlikely based on the acute onset following the endoleak repair procedure. MRI of the lumbosacral plexus was considered to contribute information, but sensitivity is not known for this condition.

Conclusions

Lumbosacral plexopathy is a rare complication of endoleak repair of the right iliac artery. However, lumbosacral plexopathy should be considered following vascular procedures with resulting neurologic deficits.

REFERENCES

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