

Background:

- Femoral neuropathy is a relatively uncommon isolated peripheral neuropathy
- We present a case where electrodiagnosis (EDX) was used to help localize a peripheral nerve sheath tumor of the femoral nerve within the pelvis.

Patient Presentation:

25-year-old gentleman without past medical history presented to our outpatient musculoskeletal clinic for evaluation for right foot pain but was discovered to have significant left thigh atrophy of unknown duration.

Case Description:

- Left hip and quadriceps weakness
- Initial concern for multiple sclerosis, but imaging negative
- Electromyography (EMG) and nerve conduction studies (NCS) of the left lower limb ordered
- NCS and EMG were most consistent with isolated left femoral neuropathy and we were able to localize the lesion to within the pelvis just proximal to inguinal ligament:
 - Femoral motor NCS is markedly different side to side:
 - 90% CMAP amplitude drop
 - 140% difference between onset latencies above and below the inguinal ligament
 - 30% more prolonged F wave on the left
 - No response in saphenous sensory NCS on left
 - EMG demonstrated left vastus medialis and lateralis muscles with increased insertional activity, moderately increased spontaneous activity, and diminished recruitment, but normal iliacus and L3-4 paraspinals
- Magnetic resonance imaging (MRI) was ordered (Figure 1) and revealed a fusiform lesion encompassing the femoral nerve, most consistent with a benign peripheral nerve sheath tumor (PNST)

Electrodiagnosis of Femoral Neuropathy from Peripheral Nerve Sheath Tumor: A Case Report.

Benjamin D. Westerhaus, MD and Jason O. Kiene, MD†*

**Department of Rehabilitation Medicine, University of Kansas Medical Center*

†PM&RS, Dwight D. Eisenhower VAMC, Leavenworth, KS

This case shows that **peripheral nerve sheath tumor** should be on the differential when localizing an isolated **femoral nerve** lesion by **EDX**.



@KU_PMR
Follow us!

Interested in learning more?
Scan for additional study details



Assessment/Results

The patient was referred to outside neurosurgery clinic for evaluation of surgical resection and possible biopsy. Consultant managed with surveillance, and one year follow up is scheduled for next month.

Tables & Figures

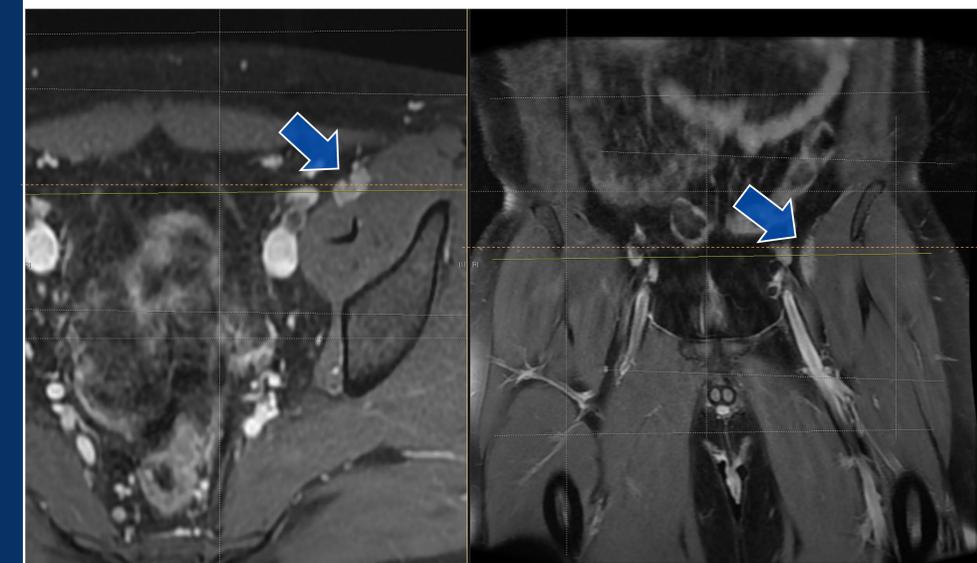


Figure 1. T1 fat suppressed MRI post contrast imaging of the pelvis, with axial view on left and coronal on right. Blue arrow indicates peripheral nerve sheath tumor located medial and anterior to the left psoas major muscle, with obvious asymmetry compared to contralateral structures. This location is distal to lateral femoral cutaneous nerve course.

Discussion:

- Isolated femoral neuropathy in absence of overt sensory changes is a rare clinical entity
- EDX may be helpful in localizing this lesion
- Further studies may be helpful in describing EDX changes of PNSTs

Conclusion:

This is the first case reported in the available literature to describe successful localization of peripheral nerve sheath tumor of the femoral nerve via electrodiagnosis.