

The Anterior Femoral Cutaneous Nerve – A Rare Entity for Tourniquet-Associated Chronic Pain

Yujie Ding, MD¹, Ryan Meral, MD¹, Srinivas Chiravuri, MD¹

1. University of Michigan Health Systems - Department of Anesthesiology

Introduction:

- Arterial tourniquets carry a risk for nerve injury via proposed mechanisms including direct mechanical sheer stress and compression leading to edema and microvascular injury of the nerve.
- We present a case involving the anterior femoral cutaneous nerve (AFCN) and our diagnostic and therapeutic approach.

Case Background:

- A 57-year-old female with a past medical history of polymyalgia rheumatic and chronic lower back pain underwent a right knee arthroscopic meniscectomy in September of 2019.
- Immediately following procedure, she developed ecchymosis and swelling of the anterior distal thigh thought to be secondary to tourniquet use.
- One year post-operatively, she continued to have intermittent weakness and paresthesia of the medial distal thigh.
- She underwent epidural steroid injections at an outside hospital to treat presumed radiculopathy from neuroforaminal stenosis in 2020 and 2021.
- In November of 2022, she underwent anterior femoral cutaneous nerve diagnostic block with four hours of complete resolution of symptoms leading to cryoablation – and ultimately, resection of the AFCN in 2023.

Timeline:

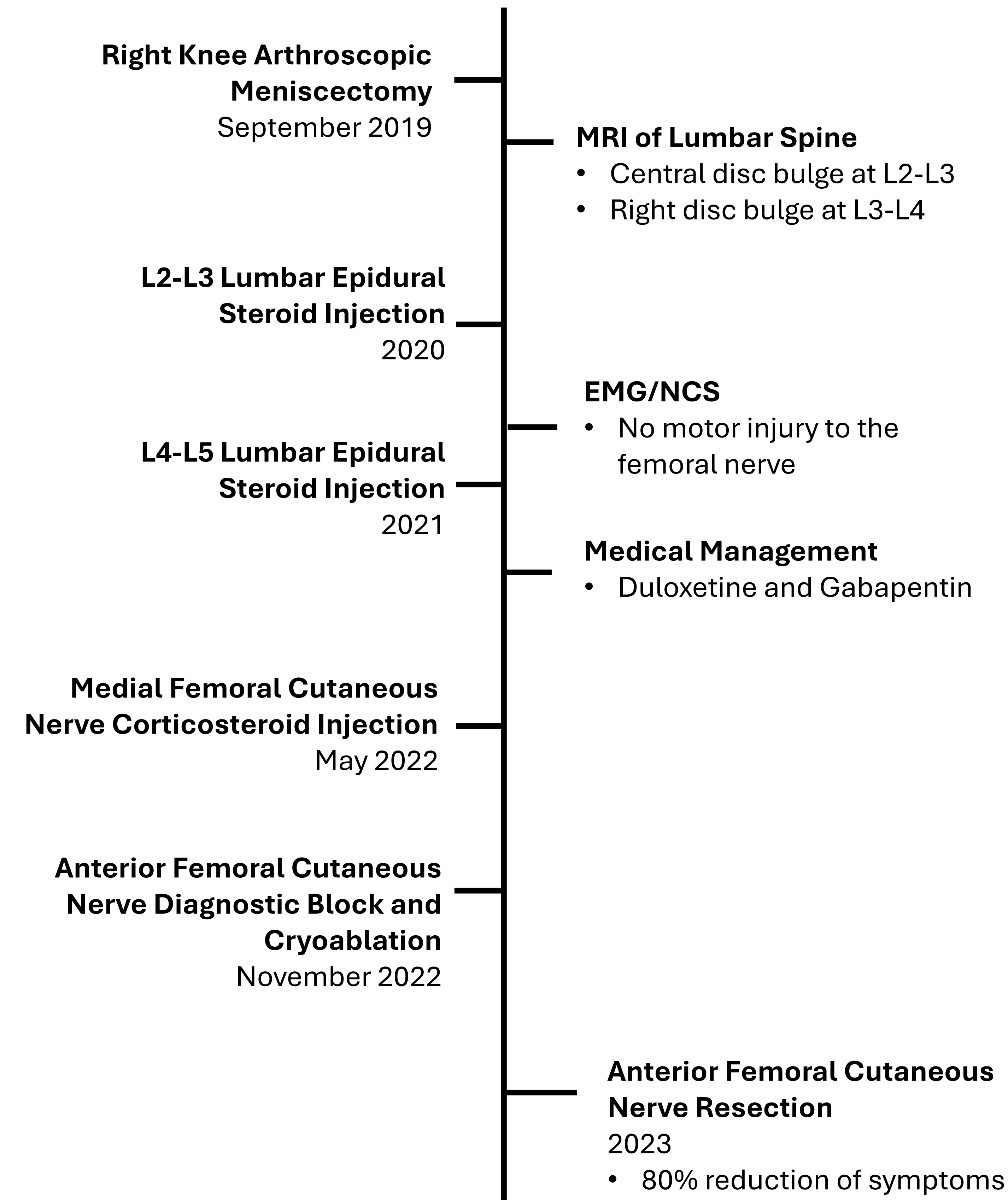


Figure 1. Cryoablation of the Anterior Femoral Cutaneous Nerve

Discussion and Conclusion:

- Diagnosis of an injury to a peripheral sensory nerve such as the AFCN poses as a diagnostic challenge.
- Our diagnostic approach includes a block proximal to the suspected region of nerve injury prior to neurolysis or neurectomy.
- In patients who benefit from cryoablation of peripheral sensory nerves, definitive resection may yield long-lasting analgesia.