

**Discussion:** Left median motor nerve conduction study was the first nerve conduction study and demonstrates normal distal latency (3.4 ms), reduced compound motor unit action potential (CMAP) amplitude (3.8 mV), and decreased conduction velocity (45 m/s). Of note is the “bifid” or “double hump” appearance of the CMAP waveform. Left ulnar motor nerve conduction study demonstrates borderline distal latency (3.8 ms), reduced compound motor unit action potential (CMAP) amplitude (2.9 mV), and decreased conduction velocity (48 m/s). Of note is the absence of the true “bifid” or “double hump” appearance of the CMAP waveform with ulnar stimulation. Left ulnar short segmental study was done in an effort to localize a site of potential entrapment given the decreased ulnar CMAP amplitudes with borderline distal latency. Increased latency difference (1.1 ms) at the site of stimulation 2 cm proximal to the ulnar groove and markedly decreased conduction velocity (18 m/s) verify the presence of a left ulnar entrapment at the ulnar groove but does not explain the decreased median motor findings and the “bifid” appearance of the CMAP in light of the median and ulnar sensory nerve conduction studies demonstrating normal sensory nerve action potential (SNAP) amplitudes and normal peak latencies. In an effort to identify technical or other confounders the ulnar nerve was stimulated with the electrodes at the APB. This produced a wave form consistent with the wave form seen on ulnar stimulation at the ADM. Electromyography validated this thought due to chronic findings in the ulnar innervated muscles (FDI and flexor carpi ulnaris) and no abnormal electromyographic findings in the APB.

**Conclusions:** This is a unique example of a common ulnar mononeuropathy confounded by a rare anatomic variant known as Riche-Cannieu anastomosis.

## Poster 84

### Sciatic Neuropathy After Total Knee Arthroplasty: A Case Report.

Anupam Sinha, DO (Rothman Institute, Philadelphia, PA); Madhuri Dholakia, MD.

**Disclosures:** A. Sinha, None.

**Patients or Programs:** A 70-year-old man.

**Program Description:** A patient with history of right total knee arthroplasty presents 6 months postoperatively with complaint of right foot pain, weakness, and paresthesia. He had been treated with physical therapy, pain medications, and a molded ankle foot orthosis in the past with mild improvement in his symptoms. He denied any low back pain. His right leg pain was 3/10. Physical examination revealed 0/5 strength in the right ankle dorsiflexors and plantarflexors, absent right Achilles reflex, and loss of sensation in the right foot. MRI of the lumbar spine revealed lumbar spondylosis and degenerative changes. Electrodiagnostic evaluation showed evidence of a severe right sciatic neuropathy affecting the tibial and peroneal divisions.

**Setting:** Outpatient spine practice.

**Results:** The patient was given duloxetine with some improvement of his pain and paresthesia. The patient subsequently gained some strength in the right ankle over the course of several months, with evidence of reinnervation on repeated electrodiagnostic study.

**Discussion:** Peroneal neuropathy is a commonly reported event after total knee arthroplasty. We present a rare case of a severe sciatic neuropathy after this procedure. Mechanism of injury may include traction injury to the nerve during the operation or rehabilitation.

**Conclusions:** Physicians should be aware of the possibility of a sciatic neuropathy after total knee arthroplasty. Electrodiagnostic study is recommended for further evaluation.

## Poster 85

### Subacromial Impingement Syndrome as a Consequence of a Long Thoracic Neuropathy: A Case Report.

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**Disclosures:** E. Y. Ben-Ozer, None.

**Patients or Programs:** A 52-year-old man with shoulder pain and scapular winging.

**Program Description:** The patient developed right shoulder pain without clear inciting event 3 months before presentation. Symptoms progressed, and he experienced reduced active motion, night pain, and scapular winging. Despite the pain, he continued remodeling work in his daughter's home in anticipation of his grandchild's birth. Neuromuscular examination revealed intact reflexes, scapular winging with resisted shoulder protraction and decreased sensation in the medial antebrachial cutaneous distribution. Musculoskeletal examination showed inability to actively abduct the shoulder past 150°. Neers and Hawkins maneuvers were positive but became negative with manual scapular stabilization. Electrodiagnostic examination identified a severe, isolated long thoracic neuropathy. Shoulder ultrasonography revealed a 1.8 × 1.0-cm tear of the supraspinatus tendon.

**Setting:** University hospital electrodiagnostic laboratory.

**Results:** Long thoracic neuropathy-induced serratus anterior weakness led to disrupted scapulohumeral motion, which, in combination with the patient's continued work activities, caused subacromial impingement and supraspinatus tendinopathy. Further questioning revealed that the patient had a severe respiratory illness a few weeks before the onset of shoulder pain that, in concert with the clinical evidence of medial antebrachial cutaneous neuropathy, suggests an acute brachial neuritis.

**Discussion:** Although an association between subacromial impingement syndrome (SIS) and scapular dyskinesis is well established, it is uncertain whether the latter represents an etiology or consequence of SIS. To our knowledge, there have been only 2 publications to date that clearly identify scapular

dyskinesia due to isolated scapular stabilizer weakness as a cause of SIS. This case represents the third clinical case providing evidence for an etiologic role for scapular dyskinesia in SIS.

**Conclusions:** Weakness of the serratus anterior muscle leads to abnormal scapular motion and, in association with upper limb use, increases risk for SIS and supraspinatus tendon pathology.

## Poster 86

### The Diagnosis, Symptomatic Treatment, and Course of Iatrogenic Botulism: A Case Report.

Que H. Nguyen, DO (University of Louisville, Louisville, KY); W. David Arnold, MD.

**Disclosures:** Q. Nguyen, None.

**Patients or Programs:** A 56-year-old man with history of genetically proven hereditary spastic paraparesis.

**Program Description:** Due to severe lower limb spasticity, the patient was treated with intrathecal and oral antispasmodic medications as well as intramuscular botulinum injections. He presented 1 week after his most recent botulinum toxin injection of usual dosage with complaints of diplopia, dysphagia, and proximal muscle weakness. Examination demonstrated grade 2+ proximal muscle strength, ptosis, reduced reflexes and sluggish pupillary responses. A clinical diagnosis of possible myasthenia gravis was given, and he was referred to the neuromuscular clinic.

**Setting:** Outpatient clinic.

**Results:** The patient had negative testing for acetylcholine receptor, muscle specific tyrosine kinase, and voltage gated calcium channel antibodies. Electrodiagnostic studies demonstrated findings of a pre-synaptic neuromuscular junction (NMJ) transmission defect with decrement on 3 Hz repetitive nerve stimulation (RNS), minimal increment on 50 Hz RNS, and frequency dependent jitter and blocking on stimulated single fiber EMG (S-SFEMG) in muscles remote from his previous botulinum injections. In the clinical setting of these findings and the recent therapeutic botulinum injection, the patient was diagnosed with iatrogenic botulism. Due to his significant weakness and impairment, a trial of 3,4 diaminopyridine (3,4 DAP) was attempted with significant improvement of proximal muscle strength from grade 2+ to grade 4 on manual muscle testing. His strength returned to baseline within 3 months, and he no longer required 3,4 DAP.

**Discussion:** Generalized weakness is an uncommon complication of therapeutic botulinum injection, particularly in patients such as ours who had been regularly receiving injections for 5 years. Botulism can mimic myasthenia gravis, and occasionally S-SFEMG may be helpful in diagnosis. 3,4 diaminopyridine is commonly used in the pre-synaptic NMJ disorder, Lambert Eaton myasthenia syndrome, and has rarely been used in botulism with reported success.

**Conclusions:** Further study is needed to determine

whether 3,4 diaminopyridine may be helpful in cases of botulism.

## GERIATRICS

### Poster 87

#### Demonstrating the Feasibility of Falls Prevention in a Naturally Occurring Retirement Community.

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**Disclosures:** N. Salimi, None.

**Objective:** The purpose of this study was to test the feasibility of designing and implementing an interdisciplinary, multi-factorial community-based fall prevention intervention aimed at community residents of a NYC Naturally Occurring Retirement Community (NORC).

**Design:** Recruitment was achieved via brochures left in the building offices and handed out to residents, direct contact from NORC staff and community outreach lectures.

**Setting:** The study took place at the Phipps Community Development Corporation, a large NORC in Manhattan.

**Participants:** Participants included both male and female subjects older than 60 years whose primary residence was at the NORC. The participants were included if there was an absence of substantial cognitive impairment (Mini mental status examination score  $\geq 18$ ).

**Interventions:** The program involved assessment of home safety, fall risk and gait, fear of falling, as well as vision, orthostatic, and medication review. The program involved 3 home visits, made by a multidisciplinary team: a baseline screening, a recommendation review, and a follow-up visit. A participant satisfaction survey was administered at the end of the project.

**Results:** Of 520 seniors residing at the NORC, 70 individuals were enrolled and completed this feasibility study. Therefore, of those eligible and interested we achieved 97% participation. On average, each participant was given a total of 8 home safety and fall prevention recommendations. The average number of recommendations implemented was 5 and all participants implemented at least 1 recommendation. The mean time 1 Falls Efficacy score was 32.9, mean time 2 Falls Efficacy score was 27.1 (paired  $t = 5.8, P = .00$ ). Overall, 94% of participants stated that they have a better understanding of home safety and fall prevention.

**Conclusions:** Our study demonstrates the feasibility of a community-based fall prevention program. One of the main challenges was recruitment, especially in people not involved in NORC activities. We believe that reach could be improved by using community volunteers to reach out to those residents.