10/01/24 Morning Report with @CPSolvers

*"One life, so many dreams" **Case Presenter**: Aye Thant (@AyeThant94) **Case Discussants**: Dr. Aaron Berkowitz (@AaronLBerkowitz) & Valeria Roldan (@valeroldan23)*

CC: 65M with weakness and difficulty walking for 4 months

HPI:
Previously well, difficulty walking, walking like a drunk, worsening gait (now in wheelchair for long distances) began abruptly 4 months ago.
Lumbar spine injections by pain management and radiofrequency ablation

ROS:
No headache, slurred speech, pain/sensory symptoms, urinary difficulties, diplopia, dysphagia, fasciculations.
Endorses weight loss (24 pounds), refractory constipation, early satiety and tingling in his fingers and toes.

PMH: nl

Meds: Meloxicam

Fam Hx: nl

Soc Hx: Smoker for 30y. Half pack/day. No drug use

Allergies: NKDA

Vitals: T: HR: 100 **BP:** 125/85 **RR:** 18 **SPO2:** 96
Exam: Gen: Cachectic, chronically ill
HEENT: no scleral icterus or injection
CV: nl **Pulm:** nl **Abd:** Soft no palpable mass
Extremities/skin: Normal joint movement, no effusion or rash
Neuro:
Mental Status: alert with fluent speech and adequate attention
Cranial nerves: unreactive pupils at 5 mm bilaterally. Full ROM. No ptosis, nystagmus, facial numbness or asymmetry. Normal tongue movement w/o atrophy
Motor: Normal tone. Reduced power shoulder abduction, elbow flexion and extension, hip flexion and extension. Remainder normal.
Reflexes all absent. Equivocal plantar.
Sensory: No sensory loss or numbness, nl proprioception
Cerebellar: No ataxia or dysdiadochokinesia
Gait: waddling gait due to proximal weakness

Notable Investigations:
NCS:
Lt median motor from the APB shows a tiny distal CMAP amplitude that increments by a factor of 10 following brief maximal exercise.
Rt tibial motor no response. Lt tibial motor tiny CMAP amplitude.
Rt and Lt peroneal motor no response.
Lt median and radial sensory normal. Lt and Rt sural sensory normal.

Needle EMG: myopathic features with mildly early recruitment of generally small motor units without fibrillation potentials

Voltage-gated Calcium channel (VGCC) Antibody +ve

Imaging: CT Chest and biopsy: SCLC

Dx: LEMS in the context of newly diagnosed SCLC

Problem Representation: 65M smoker presenting with weakness, difficulty walking and weight loss found to have reduced proximal muscle power.

Teaching Points:

Tempo x localization
CNS vs PNS vs NMJ vs muscles themselves. Particular focus on Spinal cord
Bilateral lower extremity weakness -> mosts likely localization: Spine (not just spinal cord. many structures are in there) vs peripheral involvement (Involvement of all 4 limbs brings spine down)
What to look for?
- Sensory component? Exclude neuromuscular junction and muscles
- Autonomic dysfunction (bowel & urinary dysfunction) -> cord and cauda equina
- Proximal vs distal weakness
- Time course during the day, DTRs, sensory level, Episodic

Framing the patient
Symptom mismatch -> exam will be key, Constipation without bladder involvement
Subacute spinal compression ? ddx Neoplastic involvement w/ paraneoplastic presentation
Vitamin deficiency secondary to GI cause -> B12 (subacute combined degeneration), B1 (Wernicke Encephalopathy), B4 (Ataxia), Vit E (usually combined w/ another cause), Gluten associated Ataxia

Absent reflexes
neuropathy vs muscle disease -> unless the muscles are too weak they should be preserved in muscle disease -> pure motor neuropathy is rare
The DTRs are depressed with lower motor neuron lesions directly involving specific reflex arcs. They generally are preserved in patients with myopathic weakness except in advanced stages, when they sometimes are attenuated in disorders of the neuromuscular junction, reflex responses may be affected by preceding voluntary activity(workout) of affected muscles; such activity may lead to enhancement of initially depressed reflexes in Lambert-Eaton myasthenic syndrome*(also has a pupillary component)* and, conversely, to depression of initially normal reflexes in myasthenia gravis
Associated with lung cancer, NMDA receptor expression on some cancer lead to autoimmune encephalopathy