9/1/20 Morning Report with @CPSolvers

Case Presenter: *Robert Centor (@medrants)* ***Case Discussants***: *Ghadeer Alkhafaji (@G_Khafaji) and Maria Jimena Aleman (@mariamjaleman)*

CC: bilateral leg weakness

HPI: 49 F presents with bilateral leg weakness. Weakness started a week. She was admitted ten days ago in hospital for CAP. During discharge, she had progresive difficult to walk. She did not think she was ready to discharge. No weakness in upper body no SOB apart from CAP, no B symptoms. During the admission: urinary and fecal incontinence.

Next day: Difficulty speaking and weakness in arm

PMH:
GERD
Hypertension

Meds:
Hydrocortisone
Pantoprazole

Fam Hx: **N**one

Soc Hx:
Lives with husband in Alabama

Health-Related Behaviors:
15 beers per day not much food, Marihuana, no cigarettes

Allergies: None

Vitals: **T**: 99.1 **HR**:92 **BP**:148/89 **RR**: 24 **SpO_2**: 95
Exam:
Gen: Normal for age, distrow
HEENT: Normal CNII-CXII
CV: Normal Tachycardia
Pulm: RIght upper lobe crackles
Abd: Normal
Neuro: motor 3/5 leg 5/5 arms, Hyperreflexia in legs. No sensory abnormalities No rectal exam
Extremities/Skin: Normal

Notable Labs & Imaging:
Hematology:
WBC: 11 Hgb:11 Plt: 123

Chemistry:
Na: 133 K: 4.1 Cl: 101 CO2: 20 BUN: 5 Cr: 0.9
glucose: 86
Urine drug screen: negative

Imaging:
CXR: Right upper lobe infiltrative CAP
MRI of thoracic and lumbar spine: Unremarkable
Brain MRI: Very bright bilateral pons and both thalami
DX: Central pontine myelinolysis

Records from past admission: Treated aggressively for hyponatremia. Her neuro symptoms progressed and went to palliative care

Problem Representation: 49 F present with bilateral leg weakness post CPA admission. She drinks 15 beers per day. ROS: hyperreflexia in legs ⅗ leg. Final DX: Central pontine myelinolysis

Teaching Points (Sukriti):
- **DDx = Localisation x Time**
  Charting the motor pathway: Motor cortex (precentral gyrus), brainstem (corticospinal tract), ventral horns of spinal cord, peripheral nerves, NMJ, muscle
  Layering localisation: Isolated B/L leg weakness - Suggestive of a pathology of the spinal cord, peripheral nerves. Rarely, may be a result of interhemispheric medial brain lesion -- Meningioma, ACA stroke
  Time course: Spinal Cord pathology > Neuropathy with isolated b/l leg weakness
- Clarify the weakness -- weakness vs asthenia, involvement
- Urinary and fecal incontinence (S2-S4) -- makes neuropathy less likely and serves as pivot point
- **Lung + spinal cord: Infectious** (epidural abscess, pott's spine) vs **parainfectious** (GBS, mycoplasma transverse myelitis). Consider medication -- quinolone neuropathy, cefepime encephalopathy
  Any infection (that sets of inflammatory reaction) can precede GBS, even a post-op GBS!
- **CRP:** UMN signs may take time to emerge, evaluate physical signs in context of time course of disease
- B12 - neuropathy, myelopathy, myeloneuropathy. Subacute time course, may be expedited in the presence of nitrous oxide exposure. Exam: UMN + LMN signs vibration > proprioception SE for dorsal column
- What can alcohol do to the nervous system? - hyponatremia and osmotic demyelination syndrome, however Sx unlikely to be localised to spine
- **CRP:** MRI spine in the context of UMN lesions -- done forget to image the thoracic spinal cord!
- Don't miss an extra pontine myelinolysis: basal ganglia, thalami, may even present as parkinsonism