3/15/22 Neuro Morning Report with @CPSolvers

***Case Presenter**: Doug Pet (@doug_pet)* ***Case Discussants**: Angelita (@pusparani10) and Diane Lebrun (@DianeDLebrun)*

CC:
27yo M
Over the past 7 days, had slurred speech that has worsened. Complains also of gait imbalance, intolerance of feeds, mild blurring in near vision (looking at phone).

ROS: mild weight loss, odynophagia, generalized fatigue and weakness

PMH: gastric adenocarcinoma dx a year and a half ago, chylous ascites complicated with HAP

Meds:
Methadone, Norco

Fam Hx:
No FMHx of neurologic or cancer conditions

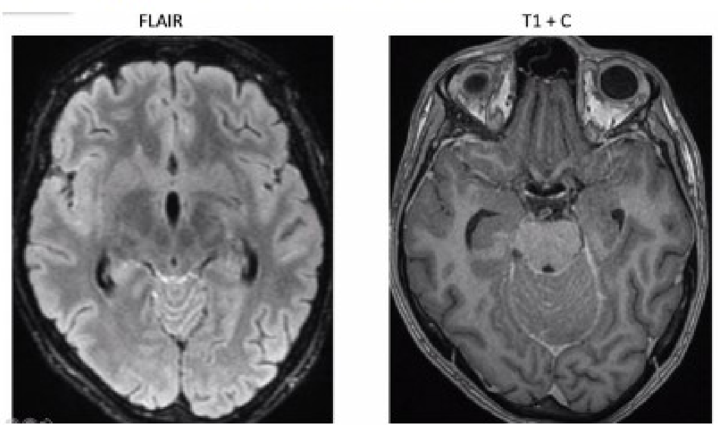
Soc Hx:
No drug, ETOH use
Camp counselor

Health Related Behaviors:

Allergies:

Vitals: **T**: afebrile **HR**:110 **BP**: **RR**: **SpO_2**: 2 L nasal cannula
Exam:
Systemic cachectic, supple neck
Neuro
- **Mental Status:** fatigue, alert
- **Cranial Nerves:** nl fundi, EOM grossly intact, mild R sided exotropia
- **Motor:** normal **Reflexes:** normal
- **Sensory:** mild decrease sensory to vibration in toes but otherwise nl
- **Cerebellar:** dysmetria on both arms, gait unstable

Notable Labs & Imaging:
CBC: leukopenic.
MRI: leptomeningeal enhancement most prominent in midline cerebellum, asymmetric enhancement of CN VI and III



LP: cytology - adenoCA.
Final DX: leptomeningeal carcinomatosis

Problem Representation: A 27yM w/ slurred speech, gait imbalance, oculomotor CN involvement and generalized fatigue for one week w/ a PMH of gastric adenocarcinoma. PE notable for cerebellar signs, gait instability, pallhypesthesia and exotropia.

Teaching Points (Maria): #EndNeurophobia

- **Slurred speech:**
  - Dysarthria: articulation (lingual- "l/t": tongue weakness (CN12); labial- "p/b": facial weakness (CN7); guttural - "g/c": larynx (CN9,10); cerebellar - scanning dysarthria, "pataca" ; corticobulbar - higher order motor)
  - Aphasia: language.
    - Frustrated? → might be clue for awareness of problem. Broca's - impaired speech production but preserved speech comprehension (aware of problem - frustrated) vs Wernicke's - preserved speech production but impaired speech comprehension (unaware - not frustrated)
  - AMS/Confusion
- **Near Vision:** convergence pathway (Medial Rectus - CN3)
  - Rule of 4s - Midbrain: 3,4. Pons: 5,6,7,8. Medulla: 9,10,11,12
- **Cancer Neuro Venn Diagram:** Direct involvement (mets) vs adverse effects of therapy (platinum base → PN; oxaliplatin - cold induced PN) vs paraneoplastic (antibody mediated - Cerebellar (antiYo), hypercoagulability (Trousseau's sx))
- **Hints for Localizing to Cerebellum:** "scanning" dysarthria; ataxia - wide based gait; dysmetria; dysdiadochokinesia, assoc CN.
  - Not all ataxia is cerebellar: Cerebellar vs Sensory (reduced proprioception/vibration. Romberg sign).
- **MRI**: T1 white matter is light, grey matter is dark; T2 white matter is dark, grey matter is light, CSF bright. FLAIR: T2 - CSF brightness. FLAIR non suppression: something other than CSF that remains bright - hemorrhage, meningitis, malignancy.
- **Leptomeningeal carcinomatosis:** Neg MRI doesn't necessarily rules it out. LP 90% sensitivity until 3rd high volume LP. So…keep a high suspicion in Ca patients with multiple non localizing signs and symptoms.