12/17/21 Morning Report with @CPSolvers

***Case Presenter**: Gurleen Kaur (@Gurleen_Kaur96) **Case Discussants**: Rabih and Reza (@rabihmgeha and @DxRxEdu)*

CC: Facial droop

HPI: 40yM with 1m Hx of R facial droop, R facial twitching, and drooling. Dx- Bell's palsy, Tx- Prednisone (no improvement). 3w ago, diplopia worse on looking to L, wore a patch over R eye to help, blurry vision, intermittent diarrhea, fatigue, night sweats, chills, wt loss, L>R weakness, difficulty standing, feet catching/tripping while ambulating. Several falls. Found to have Na: 130, mild Cr elevation (nausea, vomiting, SOB 1 week ago) Rt facial weakness with areflexia. Presented again with persistent symptoms and fever. Denies numbness, bowel/bladder or speech or cognitive problems

PMH: Received J+J vaccine 2 months ago

Meds:

Fam Hx:

Soc Hx: Smokes 1-2 cigarettes occasionally,

Health-Related Behaviors:

Allergies:

Vitals: **T**:36.7 **HR**:112 **BP**:126/60 **RR**:18 **SpO_2**:95

Exam:

Gen:

HEENT: Rt abducens gaze palsy without gaze paresis, intact up and down gaze, nystagmus in R eye with L side gaze, diplopia on L side gaze

CV Pulm, Abdomen: wnl.

Neuro: Lt leg weakness in L5-S1, Absent patellar and ankle reflexes. 1+ in biceps and brachioradialis

Extremities/Skin: No edema, no rashes

Notable Labs & Imaging:

Hematology: WBC:1.7 (16 N, 65 L, 6 mono, 1 Eo ANC-270)

Chemistry:

Na: 143 K:nl Cl nl: CO2:23 BUN: Cr: glucose: Ca: Phos: Mag: AST: ALT: Alk-P: T. Bili: Albumin: 3.1 LDH: 1649, Ferritin: 4635 UA:13.8, moderate protein , trace ketone, GQ1B<titre,

Imaging:

CT: Small bowel thickening, dilated duodenum, splenomegaly, mesenteric LN, Pulmonary nodule 3 mm, free fluid in pelvis

MRI- Abnormal enhancement with in rt IAC,along expected course of facial nerve, Rt trigeminal nerve, Rt Foramen ovale, Rt foramen rotundum

HIV, HSV, EBV, Crypto, Lyme, galactoma, beta d glucan negative, ANA-neg

LP: 52.3 protein, glucose 33, 53 nucleated cells, 3% lymph, 2% mono, 93% other (blasts).

FC: AML (monoblastic type) confirmed with BM biopsy

Final dx: AML with Monocytic differentiation (CNS and extramedullary involvement)

Problem Representation: A 40-year-old male with 1 month history of facial droop, evidence of multiple nerve infiltration, leukopenia, lymphadenopathy, splenomegaly, and elevated LDH.

Teaching Points (Maria):

- **Neuro DDx: Localization X Time Course. First ask is it really neuro?**
- **Neuropathies:**
  - Most mononeuropathies (MN) are compressive; Bell's Palsy (BP) is a non-compressive MN of CN7.
  - Not all MN of CN7 are BP (this is MCC). BP needs to be isolated CN7 MN, specific onset (few days) and offset (few weeks), no other systemic/neuro findings (twitching, diplopia).
  - Facial droop localization: differentiate UMN (cortex, subcortical, brainstem before nucleus) and LMN lesion (nucleus and distal). "Upper spares upper" - upper facial muscles has b/l cortical input and will not be affected with 1 unilateral CNS lesion.
  - Mononeuritis multiplex: >=2 non-contiguous nerves.
- **Diplopia**: gravitational sign bc it's rare to see in systemic and even neuro diseases. Consider places where multiple CN can be affected: brainstem, subarachnoid space, cavernous sinus, or NMJ. **Brainstem has heavy traffic! Peripheral neural dz+ multiple CN:** demyelinating process, NMJ
- **Leg weakness:** also approach w/ localization and differentiate between Central (UMN signs) vs Peripheral (LMN signs). Where does central and peripheral nervous system can intersect in location? Anterior Horn, Polyradiculopathies. For peripheral demyelinating disease factor in the time course - acute AIDP vs chronic - CIPD.
- **Neurological Diseases usually don't have a lot of systemic findings. But any systemic disease can cause neurologic findings.** So moving away from neuro dz w/very elevated LDH/splenomegaly/Cytopenias: Infectious, Neoplastic (Leukemia/Lymphomas), Autoimmune.
- **ALL > AML - more CNS involvement.** For AML is more common with inversion x16, and monocytic differentiation.