10/15/26 Morning Report with @CPSolvers

"One life, so many dreams" ***Case Presenter****: (@Amal)* ***Case Discussants****: (@Preethi) & (@Rabih)*

https://clinicalproblemsolving.com/present-a-case/

Scribing (Zachary):

CC: 67 y/o M p/w **leg weakness, nausea/Vomiting, confusion & progressive unsteadiness w/ falls** x 7 mo

HPI:7 mo PTA: nausea, dizziness & disequilibrium -> falls ↑ over wks. Attributed to constipation/gastroparesis, managed w/ laxatives (DM + GLP-1 RA). liraglutide D/C'd after gastric emptying study but patient continued for number of months after discontinuation.
Nausea + vomiting persisted (w/in 30 min of eating, food contents), early satiety, poor PO. ~4 mo: mild dysphagia to solids. GES @ 5 mo: severe gastroparesis. Significant weight loss. No tinnitus, diplopia, hearing change, oscillopsia. Orthostatics nl. Attributed to constipation/gastroparesis, managed w/ laxatives (DM + GLP-1 RA. B12 188 -> *cyanocobalamin 1000 mcg daily,*
Following mos: progressive weakness w/ recurrent falls, 70 lb wt loss over the yr. Weakness mainly LE, L > R, proximal + distal; walker at baseline. Intermittent bowel incontinence ~1x/wk x several mo, unaware of episodes. No bladder incontinence, no subjective sensory sx
~2 wk later: returned w/ **steadily worsening confusion & difficulty w/ speech**
ROS: **Positive** - bowel incontinence (above); visual change he couldn't characterize (?color). **Negative** - blurred vision, vision loss, eye pain, altered depth perception, fever, night sweats, HA, diplopia, hearing loss, rash, arthralgias, cough, dyspnea, bladder incontinence

PMH:
T2DM (dx 5 yr prior) c/b diabetic cataracts
COPD (no exacerbations, no home O2)
OSA, compliant on CPAP
B12 deficiency
PSH: TURP
Meds:
ASA, atorvastatin, vit B12, dapagliflozin, escitalopram, metformin, mirtazapine, tamsulosin
Liraglutide (d/c'd 7 mo prior, at onset of nausea, as mentioned)

Fam Hx: prostate CA
Social Hx: retired from office work 5 yr prior; lives w/ roommate in apt, independent in all ADLs; lifelong Midwest resident; no significant recent travel, no sick contacts, no pets; no known TB exposure, never incarcerated/homeless, no prior + testing
Health-Related Behaviors: cigarettes 2 packs per day x 35 yr no alcohol or other substance use
Allergies: NKDA

Vitals: T: 36.5 **HR**: 72 **BP**: 127/79 **RR**: 18 **Sat**: 94% RA **BMI**: 25.4 (wt 75.4 kg)
Exam: Gen: alert, appears stated age, cooperative, no distress
HEENT: nl **CV**: nl **Pulm**: nl **Abd**: nl
Neuro: **(exam 1)** oriented to person only (not month/location). CN II–XII intact. Strength 2/5 LUE & LLE, 3/5 RUE & RLE (able to lift arm to remove glasses). Sensation absent B/L LE. FTN & HTS nl B/L
(exam 2) A&Ox4; no aphasia, dysarthria, or word-finding difficulty. CN II–XII grossly intact; pupils 3 mm reactive B/L. Strength: deltoid/biceps/triceps/grip 5/5 B/L; hip flex 3/5 R, 2/5 L; knee flex 3/5 R, 1/5 L; knee ext 3/5 R, 2/5 L; ankle dorsiflexion, plantar flexion, and EHL 4/5 B/L. Patellar & brachioradialis 2+ B/L; Hoffman neg; no ankle clonus; plantars downgoing. No meningismus. Gait & Romberg not assessable (weakness)
Extremities/skin: nl

Notable Labs
Hematology: WBC: 10.8 Hgb: 14.4 Plt: 264 MCV: 91
Chemistry: Cr: 0.64 AST: wnl ALT: wnl ALP: wnl
ESR: 17 CRP: 0.3 LDH: 109 A1c 7.4 TSH 0.414, fT4 1.2 B12 >1500, folate 18.4 PSA 4.04
Imaging:
MRI brain w/ & w/o: enlarged ventricles w/ mild transependymal flow, likely communicating hydrocephalus 2/2 **diffuse leptomeningeal dz**; thin diffuse leptomeningeal enhancement of brainstem, nodular at L pons/L tentorium; ↑ brainstem T2 signal (leptomeningeal dz vs chronic ischemia)
CT chest: stable 0.7 cm LUL nodule w/ scarring; no new nodules, LAD, sarcoid findings, or effusion
MRI total spine w/ contrast: diffuse leptomeningeal enhancement C/T/L spine; nodular enhancement w/ cord compression at T11 (also nodular at C6-7); diffuse cord edema/abnl signal C & mid-lower T spine 2/2 leptomeningeal process; micronodular enhancement along conus
LP (HD4, 24 mL): OP 19 cm H2O; TNC 28 (0% N, 18% L, 82% mono/histio); RBC <2,000; pale/abnl color; protein 473; glucose 108 (serum 107); IgG 37.5 (RR <6.5); albumin 281.9; IgG index 0.53; IgG synthesis rate 31.4; ACE 4.9 U/L (0–2.5)
OCB: matching bands in CSF & serum (systemic, non-intrathecal). **Cytology** (5 mL, x1): no malignant cells; predominant monocytes, rare lymphs. **Flow:** no B-cell LPD; CD45-dim pop >90% (favored monocytes). Bact cx neg (fungal cx not sent); Lyme, Histo Ag, syphilis IgG neg; autoimmune encephalopathy panel neg
PET/CT: no FDG-avid primary; ↑ uptake/cutaneous thickening at gluteal cleft (favored infectious/inflammatory)
At this point, biopsy of T11 lesion was ordered.
T11 bx: moderately cellular glioma, fibrillary astrocytic morphology w/ variable atypia; leptomeninges involved by glioma; no MVP/necrosis; mitoses ≤1/10 HPF; Ki-67 ~3–10%. GFAP+, S100+, weak synaptophysin; ATRX & H3 K27me3 retained; p53 not overexpressed; MTAP & p16 lost; neg IDH1 R132H, H3 K27M, BRAF V600E (OLIG2/SOX10/SSTR2/EMA/STAT6/NeuN/NF also neg). CMA: +7/−10 + focal CDKN2A/B homozygous del; MGMT unmethylated; methylation family "glioblastoma", no specific class
Final Dx: Adult primary leptomeningeal gliomatosis
-> hydrocephalus observed (no drain/shunt) -> empiric dexamethasone 4 mg q6h x 7 d, no response -> ~HD21 T11 bx. Early septic shock 2/2 UTI (pressors, ICU 1 d); incidental MGUS; confusion improved, not to baseline -> 1 mo later readmitted w/ encephalopathy + septic shock 2/2 UTI (pressors), improved over 1 wk -> tumor board -> hospice

Dx: Primary Leptomeningeal Disease

Problem Representation: A subacutely confused 67 year-old male w/ PMH of T2DM, COPD and a 70 pack/year smoking history presents with seven months of positional disequilibrium, bowel incontinence and 70 lbs of weight loss is found to have communicating hydrocephalus and diffuse leptomeningeal enhancement on brain and spine imaging with high CSF protein

Teaching Points (Meghna)

- Elderly patients w acute on subacute neurological symptoms - r/o neurological decompensation, particularly red flags: stroke, TIA, dementia
- Multiple systems involved - > Triage symptoms - brain > GI
- Subacute/chronic symptoms -> severe damage to CNS (brain) -> localize
- GLP1s:
1. Uses: T2DM, Obesity
2. Ex: Semaglutide (the 'tides')
3. Screen for pancreatic cancer before prescribing
4. Stop if: nausea, vomiting, constipation
- Hematemesis: Mallory Weiss tear, consider volume change (BP)
- Causal v Co-incidental v Contributor - neurological side-effects rare with GLP1s
- Lower GI symptoms in elderly - look at previous screening colonoscopy
- Fluctuating mental status:
1. Common: dementia, hospital/ICU delirium, urinary retention, infections
2. Rare: seizures
- Weakness: Local v Central; Muscle v nerve
- Proximal weakness is majorly muscular >> NM junction (Myasthenia Gravis) -> the more distal you go, probability of it being a muscle issue diminishes
- Head to toe neurological disease -> think meninges -> unite the brain and spinal cord
- Arms are skipped -> could be a central lesion (midline meningioma)
- ALWAYS do an MRI -> LP
- Causes of Leptomeningeal enhancement: infections, malignancy (could be a primary), autoimmune, toxins, endocrinopathies, neurosarcoidosis
- Subacute meningitis -> usually in immunosuppressed except Spirochetes, Lyme's
- Elderly -> cancer until proven otherwise
- Malignant cells on solid surface of meninges -> leak into CSF -> not accurate -> find systemic location to biopsy
- Systemic cancer (occult primary) >>> primary leptomeningeal disease