

7/2024 neuro visit:

79 y.o. female with h/o GERD, HTN, DM, CKD stage 3a, R pneumocephalus, R sided VP shunt, SAH/aneurysm s/p coiling, temporoparietal stroke, h/o R frontal IPH/IVH with post circulation stroke kindly referred by DR. Kuo/Dr. Davis for worsening ataxia. According to note dated 5/16/24: "*Patient with reported **worsening ataxia over last few weeks**, though history difficult to obtain from patient. Given history, c/f ataxia being 2/2 NPH vs VP shunt dysfunction vs ischemic stroke vs underlying dementia. Clinically, there is also high suspicion for underlying dementia with neurocognitive deficits that need further evaluation*".

She does suffer from imbalance since 1/25/2021 for a ruptured aneurysm s/p coiled embolization 1/26/24 with subsequent infarction to the left parietotemporal region and dorsal aspect of the insula on 2/19/24 after which she was unable to walk at all and aphasic. Shortly thereafter required a VPS on 2/11/24 and then developed a CSF leak on 6/8/22 required MASTOIDECTOMY WITH MASTOID OBLITERATION (6/14/22). She underwent extensive PT/OT/Speech tx after her 2021 admission. Daughter noted improvement in all deficits, but not back to baseline. Gait has improved and no falls.

She has had 4 episodes over a 2 wk period with slurring of speech and drooling on 1 of those occas. First episode 5/11/24, transient slurred speech. She had a 2nd episode with some drooling 5/25/24, daughter noted slurring of speech, unknown length of time. No other focal sxs. On 5/28/24, she had CTH- unremarkable. Episodes last only minutes. No altered consciousness. Once she calms down symptoms resolve.

PRIOR W/U:

XR shuntogram (5/20/24): Right frontal approach ventriculoperitoneal shunt catheter in place. No shunt discontinuity or kinking.

CT head WO IV contrast (5/28/24): 1. No CT evidence of acute intracranial abnormality. 2. **Stable ventricular size and morphology.** 3. Mild paranasal sinus disease as described above.

NORMAL TSH, RPR

Low normal B12 275

Slt elevated HgA1c 6.6

MR brain wow B--ordered; pending.

Ophth (2/2/24): cataract B; normal discs

PMHX: GERD, HTN, DM, CKD stage 3a, R pneumocephalus, R sided VP shunt, SAH/aneurysm s/p coiling, temporoparietal stroke, h/o R frontal IPH/IVH with post circulation stroke
SOHX: No ETOH, cigs (second hand smoke--husband), drugs. Married with 4 grown kids.

ALL: enalapril

FMHX: heart dz, DM, HTN, CA

Neurological Exam

Mental Status

Awake, alert and oriented to person, place and time. Speech is normal. Mixed aphasia present. Attention and concentration are normal. Fund of knowledge is appropriate for level of education.

Cranial Nerves

CN II: Visual acuity is normal. Visual fields full to confrontation.

CN III, IV, VI: Extraocular movements intact bilaterally. Normal lids and orbits bilaterally. Pupils equal round and reactive to light bilaterally.

CN V: Facial sensation is normal.

CN VII: Flattening of R NLF.

CN VIII:

Right: Hearing is decreased.

Left: Hearing is decreased. Hearing aide L ear.

CN IX, X: Palate elevates symmetrically

CN XI: Shoulder shrug strength is normal.

CN XII: Decreased push to the R.

Motor

Normal muscle bulk throughout. No fasciculations present. Normal muscle tone. No abnormal involuntary movements.

	<u>Right</u>	<u>Left</u>
Neck flexion	5	5
Neck extension	5	5
Shoulder abduction	5	5
Elbow flexion	5	5
Elbow extension	5	5
Wrist extension	5	5
Finger abduction	5	4
Hip flexion	4+	4
Knee extension	5	5
Dorsiflexion	5	5

Sensory

Unreliable due to her aphasia, but suspect decrease to all modalities in a stocking distribution. Greatly reduced vibra and proprio in the LE. .

Reflexes

	<u>Right</u>	<u>Left</u>
Brachioradialis	2+	2+
Biceps	2+	2+
Triceps	2+	2+
Patellar	2+	2+
Achilles	1+	Tr
Right Plantar: equivocal		
Left Plantar: equivocal		

Right pathological reflexes: Ankle clonus absent.

Left pathological reflexes: Ankle clonus absent.

Coordination

Right: Finger-to-nose normal. Rapid alternating movement normal. Heel-to-shin normal. Left:

Finger-to-nose normal. Rapid alternating movement normal. Heel-to-shin normal.

More difficulty noted on L F to N.

Gait

Normal heel walking. Romberg is absent.

Difficulty with toe gait. Some difficulty with tandem, Sit unsteady at times during ambulation..

Physical Exam

Eyes: Pupils are equal, round, and reactive to light. Lids are normal.

Cardiovascular: Normal rate, regular rhythm and normal heart sounds.

Musculoskeletal:

Cervical back: Normal range of motion and neck supple. No tenderness.

Psychiatric: Her speech is normal.

Brief episodes of slurring of speech and drooling x 4. Compliant on daily ASA/statin. DDX: TIA, but brevity of episodes (minutes) makes TIA less likely; focal sz; stroke recrudescence, etc..

Gait instability. Suspect multifactorial due to h/o stroke/ruptured aneurysm, PN, possible inner ear disorder, etc.

Concern for memory impairment, not clear if progressive. Also difficulty to assess given baseline aphasia.

PLAN:

1. Awaiting MRI B ordered by PCP to assess for vascular lesion, NPH.
2. Awaiting NS appt ordered by PCP.
3. MMA, ceruloplasmin, SPEP
4. Will refer for EMG/NCS to assess possible PN.
5. Will refer for baseline neuropsych testing.
6. Will refer to Stroke clinic for second opinion regarding episodes of slurring/drooling as possible TIA.
7. 2hr EEG to assess for cortical irritability and epileptogenicity.
8. Offered PT for balance and also speech tx. Patient declined.
9. Follow-up in 3 months. Urged patient to go immediately to ER should she have any further episodes of slurring/drooling or change from baseline neurologic function.

10/9/24 neuro visit:

79 y.o. female for follow-up. Last/initial visit 7/10/24. We reviewed results of MRI (see below) and EEG. Regarding the MRI results, she denies any HA what so ever. Has not seen NS yet and has not gotten recommended labs.

She has had no further episodes of spells with slurring speech and drooling.

She states that speech, gait are all getting better. No falls.

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MRI B (7/15/24): Diffuse pachymeningeal enhancement with engorgement of cervical spine epidural plexus, convex appears pituitary and relative engorgement dural venous sinuses. Imaging findings are most suggestive of **intracranial hypotension** which may be related to over shunting in this patient with programmable shunt. **Encephalomalacic changes centered within the left parieto-occipital region** likely related to chronic infarct. Relatively symmetric T2/FLAIR hyperintensity noted along the medial margins of paracentral gyri/superior parietal lobules **left greater than right also likely related to remote prior infarct.** Similar encephalomalacic changes noted **right gyrus rectus, likely related to remote prior infarct.**

Other few scattered T2/FLAIR hyperintensities present within subcortical and periventricular white matter supratentorially, likely ischemic related. Likely **cholesteatoma measuring up to 1.9 cm in diameter within right mastoidectomy bowl; this appears new from prior MR imaging.** Paranasal sinus disease with small air-fluid level present within right sphenoid sinus. Correlate with clinical signs of sinonasal infection. **Pituitary does not appear convex relative to suprasellar cistern though height of pituitary appears subtly increased when compared to 06/09/2022.** Given appearance of pachymeninges as well as somewhat distended appearance of dural venous sinuses, imaging findings are **concerning for possible stigmata of intracranial hypotension.**

2hr EEG (10/4/24): abnormal awake and drowsy EEG 2/2 intermittent slow, left temporal.

CLCO: evidence of a left temporal cortical dysfunction, non-specific in etiology.

PMHX: GERD, HTN, DM, CKD stage 3a, R pneumocephalus, R sided VP shunt 2/11/24, SAH/aneurysm s/p coiling, temporoparietal stroke, h/o R frontal IPH/IVH with post circulation stroke; *developed a CSF leak on 6/8/22 required MASTOIDECTOMY WITH MASTOID OBLITERATION (6/14/22).*

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Review of Systems

See hpi.

Objective

Neurological Exam

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Mixed aphasia present.

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Finger abduction	5	4
Hip flexion	4+	4
Knee extension	5	5
Dorsiflexion	5	5

BP:	(!) 148/56	(!) 146/55	
BP Location:	Left arm	Right arm	
Patient Position:	Sitting	Sitting	
BP Cuff Size:	Regular Adult Long	Regular Adult Long	
Pulse:	60		
Resp:	18		
Temp:	36.6 °C (97.8 °F)		
TempSrc:	Oral		
SpO2:	99%		
Weight:	57.7 kg		
Height:	1.549 m		

I personally visited with and examined the patient. My focused evaluation was notable for: Sitting in chair in no acute distress. Joined by her daughter.

The patient presents today for the follow-up of the following diagnosis(es) and my comments about the case are as follows:

Update DEXA.

BP above goal today. Reports consistency with medications. Increase amlodipine to 10mg.

Continue other meds as rx. Does not wish to change to combo pill at this time.

Recommended flu shot.

Update labs prior to next.

Hx of positive FIT in 2019. Revisit colonoscopy moving forward pending clarification of neurologic issues.

Curiously, shares that transient neurologic spells that have experienced have not recurred after stopping eating bananas, which she loves. However, when she has had one intermittently without telling her son or daughter, symptoms did recur. Based off the story and description of event in neuro note, as well as in the setting of her CNS disease, query if could represent pollen-food allergy syndrome mimicking a transient neurologic event (when actually just a focal/local reaction). Banana is a well-known offender from my reading.

79 y.o. female with HTN, DM2, CKD IIIa, SAH in setting of ruptured Acomm aneurysm 01/21 s/p coiling and right VP shunt c/b left temporoparietal stroke attributed to intracranial stenosis, R frontal IPH and IVH and subsequent posterior circulation stroke, and pneumocephalus due to tegmen defect s/p mastoidectomy who presents for follow-up.

Patient is currently following with neurology and MSK for workup of her neurological symptoms. She also has a referral for nsgy coming up regarding head imaging findings.

She states doing well and is accompanied by her daughter this visit. States her brother is the one that helps the patient with her medications. Her BP was high this visit and we confirmed the patient was taking

•	Positive FIT (fecal immunochemical test)	
•	Perforation of right tympanic membrane	
•	Pain in right foot	
•	Osteoarthritis of both knees	
•	Multiple joint pain	
•	Hearing loss, bilateral	
•	HLD (hyperlipidemia) (CMS/HCC)	
•	Essential (primary) hypertension (CMS/HCC)	
•	GERD (gastroesophageal reflux disease)	
•	Deformity of toenail	
•	Breast lump	
•	Vision changes	
•	Postural instability	
•	Pinguecula	
•	Nuclear sclerosis	
•	Urinary incontinence	
•	Diabetic cataract of both eyes (CMS/HCC)	
•	Hydrocephalus, unspecified type (CMS/HCC)	

•	Alcohol Sheets (Alcoh-Wipe) sheet	Test daily before all meals/snacks and once before bedtime.
•	amLODIPine (NORVASC)	10 mg, Oral, Daily
•	aspirin EC	81 mg, Oral, Daily
•	atorvastatin (LIPITOR)	20 mg, Oral, Daily
•	Blood Glucose Monitoring Suppl (FreeStyle InsuLinx System) w/ Device kit	Test daily as needed
•	calcium carbonate (OS-CAL)	1,250 mg, Oral, Daily with breakfast
•	Diclofenac Sodium (VOLTAREN) 1 % gel	APPLY 2 GRAMS FOUR TIMES A DAY TOPICALLY AS NEEDED FOR JOINT PAIN MAX 8GM PER JOINT/DAY. MAX

•	hydroCHLOROthiazide	12.5 mg, Oral, Daily
•	Loratadine (CLARITIN)	10 mg, Oral, Daily PRN
•	losartan (COZAAR)	100 mg, Oral, Daily
•	metFORMIN (GLUCOPHAGE)	500 mg, Oral, 2 times daily with meals (AM & Eve)
•	omeprazole (PRILOSEC)	20 mg, Oral, Daily, Do not crush or chew. Ok to open capsule and mix with 1 tablespoon soft

Physical Exam

Constitutional:

General: She is not in acute distress.

Appearance: Normal appearance.

HENT:

Head: Normocephalic and atraumatic.

Nose: Nose normal.

Mouth/Throat:

Mouth: Mucous membranes are moist.

Eyes:

Extraocular Movements: Extraocular movements intact.

Cardiovascular:

Rate and Rhythm: Normal rate and regular rhythm.

Heart sounds: No murmur heard.

Pulmonary:

Effort: Pulmonary effort is normal. No respiratory distress.

Breath sounds: Normal breath sounds.

Abdominal:

Palpations: Abdomen is soft.

Tenderness: There is no abdominal tenderness.

Musculoskeletal:

General: No swelling or tenderness.

Cervical back: Normal range of motion.

Skin:

General: Skin is warm and dry.

Neurological:

General: No focal deficit present.

Mental Status: She is alert and oriented to person, place, and time. Mental status is at baseline.

Sensory: No sensory deficit.

Comments: **Mild mental decline, stable, seems to be at baseline today.**

#Numbness of foot

#Left foot drop

#Ataxia

#Drooling

#Abnormal brain MRI findings

Patient being followed by neurology for episodes of slurring of speech and drooling. Gait instability and concerns for memory impairment. Previously complaining of numbness of foot and ataxia.

PER NEURO LAST NOTE:

"PLAN:

1. Awaiting Stroke clinic for second opinion regarding episodes of slurring/drooling as possible TIA.
2. Awaiting NS appt ordered by PCP.
3. MMA, ceruloplasmin, SPEP

4. Awaiting appt for EMG/NCS to assess possible PN.
5. Awaiting baseline neuropsych testing.
6. Patient to see ENT 12/10/24 to ask about "cholesteatoma" noted on MRI (suspect 2/2 surgery in 6/24).
7. Follow-up in 4 months. Urged patient to go immediately to ER should she have any further episodes of slurring/drooling or change from baseline neurologic function. "

Plan for today:

- A referral to MSK clinic had been placed for low back pain by PM&R
- ENT referral placed by neurology
- She is following up with NSGY regarding MRI findings
- Concern with bananas causing confusion per patient's family, will investigate further next visit

#Gastroesophageal reflux disease without esophagitis

Patient states she is no longer having trouble swallowing foods or pills. States she would like to keep her regimen as is.

- cont omeprazole capsule 20 mg daily

#HTN

Blood pressure today above goal of 140/90. Patient reports taking medication this morning, however, has history of not taking medications due to confusion, her son handles her medications.

- Advised patient to bring blood pressure log next visit
- Continue losartan 100, hydrochlorothiazide 12.5. Discussed with patient possible switch to combination pill but states would like to keep the same for now
- Increase amlodipine to 10 mg daily

#Diabetes T2

Last A1c is 6.6.

- Cont to monitor, will repeat labs for next visit

	Latest Reference Range & Units	08/29/23 18:33	08/29/23 21:19	05/16/24 12:11
	Sodium 135 - 145 mmol/L	141		
	Sodium (External) 135 - 146 mmol/L			140
	Potassium, Bld 3.5 - 5.1 mmol/L	3.8		
	Potassium (External) 3.5 - 5.3 mmol/L			4.1
	Chloride 94 - 106 mmol/L	109 (H)		
	Chloride (External) 98 - 110 mmol/L			105

	Carbon Dioxide 20 - 29 mmol/L	28		
	CO2, Carbon Dioxide (External)20 - 32 mmol/L			22
	Anion Gap<12 mmol/L	4		
	Urea Nitrogen, Blood7 - 25 mg/dL	23		
	BUN, Blood Urea Nitrogen (External)7 - 25 mg/dL			27 (H)
	Creatinine0.5 0 - 1.10 mg/dL	1.07		
	Creatinine (External)0.60 - 1.00 mg/dL			1.18 (H)
	BUN / Creatinine Ratio (External)6 - 22 (calc)			23 (H)
	eGFR Non-Black (External)> OR = 60 mL/min/1.73m2			47 (L)
	Glucose (External)65 - 99 mg/dL			134 (H)
	Glucose60 - 100 mg/dL	111 (H)		
	Calcium8.2 - 10.3 mg/dL	9.4		

	Calcium (External)8.6 - 10.4 mg/dL			9.8
	ALP, Alkaline Phosphatase (External)37 - 153 U/L			64
	Albumin (External)3.6 - 5.1 g/dL			4.1
	Protein, Total (External)6.1 - 8.1 g/dL			7.1
	AST, Aspartate Aminotransfer ase (External)10 - 35 U/L			12
	ALT (External)6 - 29 U/L			12
	Bilirubin, Total (External)0.2 - 1.2 mg/dL			0.6
	Globulin Calc (External)1.9 - 3.7 g/dL (calc)			3.0
	Albumin / Globulin Ratio (External)1.0 - 2.5 (calc)			1.4
	Hemoglobin A1c Diabetic Assessment (External)<5. 7 % of total Hgb			6.6 (H)

	TSH, Thyroid Stimulating Hormone (External)0.40 - 4.50 mIU/L			2.86
	WBC3.40 - 10.40 K/mcL	7.51		
	Red Blood Cell Count4.00 - 5.00 M/mcL	4.40		
	Hemoglobin11.5 - 14.9 g/dL	12.5		
	Hematocrit36.0 - 45.5 %	38.2		
	MCV77.7 - 93.7 fL	86.8		
	MCH26.0 - 32.9 pg	28.4		
	MCHC30.4 - 34.7 g/dL	32.7		
	RDW11.4 - 15.8 %	12.8		
	Mean Platelet Volume8.5 - 12.4 fL	11.3		
	Platelet140 - 377 K/mcL	195		
	nRBC%	0.0		
	nRBC AbsoluteK/mcL	0.00		
	Neutrophils Percent Auto%	49.5		
	Immature Granulocyte Percent Auto%	0.3		

	Lymphocytes Percent Auto%	38.6		
	Monocytes Percent Auto%	8.0		
	Eosinophil Percent Auto%	3.2		
	Basophil Percent Auto%	0.4		
	Neutrophils Absolute Preliminary1. 50 - 6.60 K/ mCL	3.72		
	Neutrophils Absolute1.50 - 6.60 K/mCL	3.72		
	Immature Granulocytes Absolute Auto<=0.10 K/mCL	0.02		
	Lymphocytes Absolute0.90 - 3.60 K/mCL	2.90		
	Monocytes Absolute0.20 - 0.90 K/mCL	0.60		
	Eosinophils Absolute Auto0.00 - 0.40 K/mCL	0.24		
	Basophil Absolute0.00 - 0.10 K/mCL	0.03		

	Microalbumin, Urine Random (External) See Note : mg/dL			1.5
	Creatinine, Urine (External) 20 - 275 mg/dL			206
	Microalbumin / Creatinine Ratio, Urine (External) <30 mg/g creat			7
	CT Head Angiogram with Contrast		Rpt	
	CT Neck Angiogram with Contrast		Rpt	

(H): Data is abnormally high

(L): Data is abnormally low

Rpt: View report in Results Review for more information

PMHx: HLD, HTN, hearing loss, T2DM, GERD, OA

All other stuff absent not relevant

6/2024 visit for further hx:

79 y.o. female with HTN, DM2, CKD IIIa, SAH in setting of ruptured Acomm aneurysm 01/21 s/p coiling and right VP shunt c/b left temporoparietal stroke attributed to intracranial stenosis, R frontal IPH and IVH and subsequent posterior circulation stroke, and pneumocephalus due to tegmen defect s/p mastoidectomy who presents for follow-up.

Patient is accompanied by her daughter at the visit today. Patient denies any changes over the last several weeks, gotten XR shuntogram and CT head, both of which were unremarkable for acute abnormalities. She continues to have some ataxia, and patient herself reports that she has been slow when walking. Patient's daughter says that she has had some left foot drop/dragging when walking, when asking patient about this, she reports that this is because she has numbness in her feet, left worse than right. She says that this has been going on since her first brain surgery with her aneurysm a few years ago, but that it might be getting worse over time. She denies any lightheadedness, dizziness, weakness, other gait abnormalities, hip pain, recent falls. Patient has follow-up appointment to neurology at the beginning of July. Daughter asks if she needs to see neurosurgery for this as well.

Patient's daughter request that her medications be changed to either liquid form, or advised on how to crush medications, because patient has been having more more pill dysphagia. She eats small bites, and denies any coughing or choking with liquids. She has not scheduled EGD yet.

1. Numbness of foot
2. Left foot drop
3. Ataxia

Patient with chronic, progressive ataxia and new complaint (although chronic symptoms) of bilateral numbness of feet. Patient's family reporting that she has gait abnormality with a left sided foot drop, although not seen on exam.

- Vitamin B12

- Follow-up with neurology as previously scheduled

- Pending MRI brain, scheduled mid July

- Consider MRI thoracic and lumbar spine for further evaluation of abnormalities

- Consider EMG/nerve conduction study for changes

4. Seasonal allergies

- Reordered as liquid: Loratadine (Claritin) 5 MG/5ML solution; Take 10 mg by mouth 1 (one) time each day if needed (Allergies). Dispense: 300 mL; Refill: 11

5. Gastroesophageal reflux disease without esophagitis

6. Dysphagia, unspecified type

Patient with ongoing solid food dysphagia, including pill dysphagia. Denies any liquid dysphagia at this time. No previous EGD available for evaluation, patient also with poorly controlled reflux symptoms, recently transition to PPI from famotidine (in the setting of CKD and tachyphylaxis).

- Discussed with pharmacy, most of the medications can be transitioned to crushed form, including atorvastatin, hydrochlorothiazide, losartan, amlodipine; metformin can be split into smaller he says

- Aspirin can be bought as chewable tablet form

- Discontinued pantoprazole, started omeprazole capsule 20 mg daily, to be broken into food

7. HTN

Blood pressure 150/57, above goal of 140/90. Patient reports that she did not take her medications this morning, brings a blood pressure log with her, majority of systolics between 110-120s with diastolic pressure in the 60s.

- Advised patient to bring blood pressure monitor to clinic visit to compare with clinic machines

- Continue losartan 100, hydrochlorothiazide 12.5, amlodipine 5, could consider optimizing amlodipine versus hydrochlorothiazide and switching to 2 antihypertensive agents to reduce pill burden, particularly in the setting of pill dysphagia.