



03/26/24 Neuro Morning Report with @CPSolvers



"One life, so many dreams" Case Presenter: Hans Kaus Case Discussants: Aaron Berkowitz (@AaronLBerkowitz) Andrew (@ASanchez_PS)

CC: 21 yo female, throbbing headaches, loss of sensation in her left leg

HPI: Symptom duration of 3 weeks, sometimes accompanied by nausea, photophobia, left leg, right leg, right paresthesia

- character: not thunderclap, very severe and throbbing (migraine-like)

CT head initially unremarkable, symptoms disappeared, discharged w/ analgesics

+2days: Re-appeared, admitted, headache improved, exam and fundoscopy unremarkable, discharge w/ amitriptyline

+10days: Headache returned, accomp. by confusion, right arm weakness, LOS in right arm and face

ROS+: Migraine headaches since her teens (2x/year), not as severe as right now
ROS-: Fever, rash, weight loss

PMH:
Migraine (2x/year)

Meds:
Amitriptyline
Analgesics
No birth control
or acne meds

Fam Hx:
No family members with headaches

Soc Hx:
University student
Not married, not sexually active

Health-Related Behaviors:
Unremarkable

Vitals: nl

Exam: Gen: Concerned about losing sensation

Mental Status: Confused, oriented 4x

Cranial Nerves: all intact, except CN VI (bilateral rectus palsies)

Visual acuity nl

Motor: Right arm 2/5, loss of sensation; left 5/5, sens.

normal, legs 5/5, sens. of face reduced, no neck stiffness

No cerebellar sign, normal gait

Fundoscopy: Bilateral papilledema

Lung/CV: nl

Skin warm to touch, no rashes

Lower extremities: No edema

Notable Labs & Imaging:

WBC, Chemistry: wnl; β HCG negative

Serology: Borrelia, Syphilis, HIV, EBV, CMV, HSV, Coxiella burnetii, Toxoplasma, Bartonella negative
ANA, ANCA, RF negative

MRI Brain w/ contrast and venogram: negative

EEG: no signs of epileptic activity, asynchronous frontotemporal bursts of delta waves

CSF: Opening pressure: 40 (nl 7-18), WBC 310, 95% lymphos, protein and glucose nl, oligoclonal bands negative

- PCR: Entero, HSV, VZV, EBV, CMV, parechovirus, measles, BK, HHV 6/7 negative

Cytospin: morphologically nl lymphocytes

Hosp. course: Pressure, WBCs and protein decreased on their own

Dx: HaNDL (Headache with neurological deficits and CSF lymphocytosis)

Problem Representation: 21 F presents with throbbing headaches and loss of sensation in her left leg, high opening pressure with lymphocytosis
Localization: False localizing signs to ICP.

Teaching Points (Parisa): #EndNeurophobia

Headache \rightarrow primary (Tension; migraine (neurologic findings, focality); cluster) vs secondary (red flags) \Rightarrow loss of sensation; motor weakness (rule out myelopathies)
In differentiating headache \Rightarrow Epi is the key.

Migraine \rightarrow diagnostic of exclusion; nl imaging; could present in many ways; FHM, confusion migraine.

Change of frequency and pattern \rightarrow red flag of migraine

Migraine \rightarrow positive symptoms (aura; paresthesia)

Stroke TIA \rightarrow negative symptoms (loss of sensation; vision loss)

Secondary (anatomic approach) \rightarrow out of head (not inside skull); ocular glaucoma, Bone disorders; Inside head and neck (brain, meninges, arteries), systemic (flu, vaccine, dehydration, fever)

ROS (will help in findings red flags) \rightarrow red flags \Rightarrow characteristic of headaches (worse headache in life; history of cancer, HIV, patient age jaw claudication, weight gain \rightarrow pseudotumor cerebri; focal symptoms (vision loss))

Intracranial pressure = Brain orthopnea (positional headaches; blurry vision (papilledema); double vision (CN6) \rightarrow could trigger with coughing sneezing laughing.

Medication \rightarrow 1) acne medication \rightarrow retinoids (pseudotumor cerebri), 2) birth controls hypercoagulability venous sinus thrombosis; 3) tetracycline
Headache; fever; confusion \rightarrow meningoenephalitis is no miss diagnosis.

Episodic neurologic presentation \rightarrow 1) embolic events 2) Intermittent vascular event \rightarrow Reversible cerebral vasoconstriction syndrome (RCVS) \rightarrow arteries clamped down \rightarrow constriction on imagining \rightarrow small stroke and neuro deficits; primary & secondary (SSRIs, marijuana, cough syrup)/ brain Prinzmetal angina/ Convexal SAH; Tx: verapamil. Presents with thunderclap headaches. 3) TIA

ICH \rightarrow Papilledema; CN6 palsy \rightarrow Brain 80%; blood 10%; vessels ventricular 10%
Demyelinating multifocal aggressively \rightarrow **ADEM** (acute disseminated encephalomyelitis) more in kids, post infection, post vaccine, confusion, focal deficits, enhancing lesion, **MOG** (myelin oligodendrocyte glycoprotein) \Rightarrow optic neuritis; transverse myelitis. **MS** \rightarrow will not cause rise in IC; not mass effect; tempo weeks or months.

HaNDL syndrome \Rightarrow Headache and Neurological Deficits with CSF Lymphocytosis Normal imaging and EEG; good prognosis.

Elevated opening pressure and high lymphocyte \Rightarrow management (treatment acyclovir)