INTERESTING HEADACHE CASES

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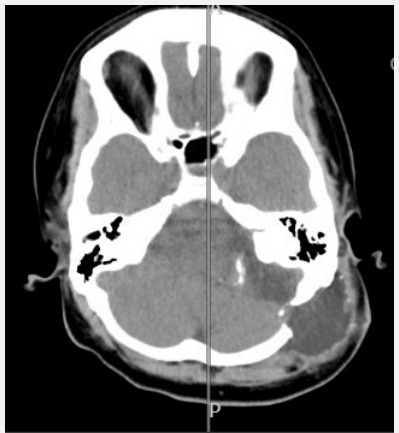
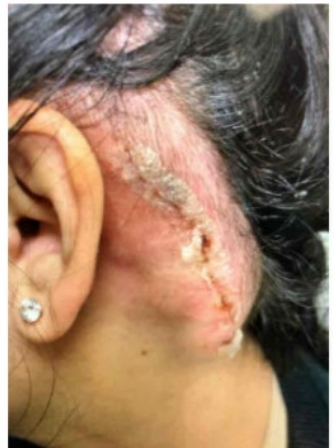
No disclosures.

CASE STUDY #1

- 29yo F with PMHx of HA's since 3yo, anxiety, depression, GERD.
- 18yo found to have arachnoid cyst and subsequently underwent cyst fenestration
- D/t complex scarring of cyst in its persistent recurrence, ultimately underwent cyst catheterization in 2019 for obstructive hydrocephalus
- Shunt removal d/t over shunting in 2/7/2020
- D/t large pseudomeningocele developing at shunt insertion/removal site (pics below) and worsened ha's (negative w/up for infection), VP shunt was inserted on 2/21/2020
- D/t generalized weakness from recent hospitalizations causing physical deconditioning, pt began PT
- Experienced sudden severe pain during one session, found to have a distal catheter disconnection requiring shunt revision in 8/27/21
- 9/17/21 had another shunt revision due to swelling then leaking CSF at incision site





CASE STUDY #1

- D/t continued HA's, pt was referred to HA clinic.

- Described fluctuations between the following HA types:
  - sharp pain around shunt incision site w/ associated tight muscles and decreased neck ROM
  - constant pain worsened with coughing, laughing, yelling, or certain positions
  - pulsating/pounding HA's with associated photophobia, phonophobia, and n/v

- Due to these descriptions, it was likely she was suffering from multifactorial HA's including migrainous HA's, neuralgic pain around incision site, cervicalgia, and pain related to elevated/low ICP's (evidenced by relief w/ LP's or papilledema noted on ophtho exams).

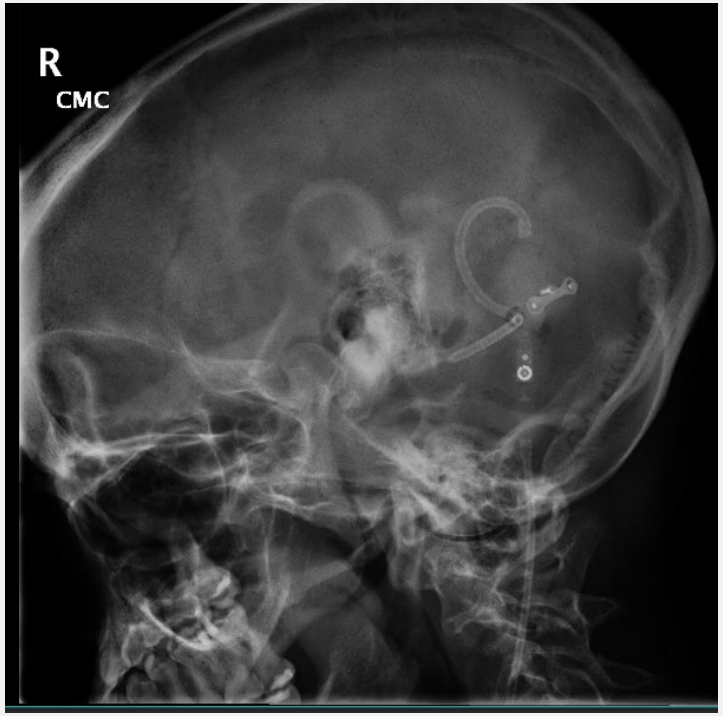
CASE STUDY #1

TREATMENTS TRIED AND FAILED:

- Erenumab
- Galcanezumab
- Fremanezumab
- Topiramate
- Zonisamide
- Acetazolamide
- Gabapentin
- Pregabalin
- Amitriptyline - SOB
- Duloxetine - n/v
- OnabotulinumtoxinA - 3+ rounds, increased neck mobility, slight improvement
- Sumatriptan
- Rizatriptan
- Eletriptan
- Ibuprofen
- Diclofenac
- Meloxicam
- Naproxen
- Ketorolac
- Cyclobenzaprine
- Methocarbamol
- Butalbital-acetaminophen-caffeine
- Hydroxyzine
- Rimegepant
- Ondansetron
- Promethazine
- Prochlorperazine
- Metoclopramide 10mg
- Meclizine
- Diphenhydramine
- Steroids
- B/l L&G ONB with US 1/21/21
- Neuromodulation devices
- Infusions
- PT

CASE STUDY #1

- US of left neck significant for increased hyperechoic tissue predominantly at the inferomedial and inferolateral aspects along the VPS for ~2.5cm
  - Scar tissue questionably compressing occipital nerve
- 2 trigger point hydrodissections at the left splenius capitis, sternocleidomastoid to break up scar tissue around the shunt tubing
- Significant relief of neck pain/tension.
- Then experienced severe ha's w/ n/v only resolving w/ laying flat for approximately 30 min greatly affecting ability to perform ADL's.
- Collaboration with NSGY. Shunt likely over shunting as it is no longer compressed by scar tissue. Shunt reprogrammed.
- Ha's less frequent and severe. Now able to "function better" and "enjoy life more".



CASE STUDY #1

- Takeaways:
  - Importance of collaboration
  - Treatment of multifactorial HA's

- Update:
  - Pt no longer experiencing severe HA's, positional HA's, or high frequency n/v. Continues to follow w/ NSGY, HA clinic, and ophtho due to continued HA's. However, much improved and QOL has returned. Pt has discontinued all preventatives and only takes Eletriptan as needed.

CASE STUDY #2

- 32 yo F with PMHx of migraines, ESRD d/t focal segmental glomerulosclerosis on peritoneal dialysis pending kidney transplant, HTN, PCOS, mild OSA, asthma, depression, developmental delay, Peter's anomaly s/p corneal transplant, 6th nerve palsy w/ amblyopia and esotropia d/t ocular HTN related to ESRD.

- Presenting to outpatient HA clinic for progressively worsening migraines with visual aura that are now occurring 30/30 days per month with 16/30 debilitating days a month.

- Thorough workup unremarkable including MRI, MRA, and MRV brain, and CT cervical spine.

CASE STUDY #2

TREATMENTS TRIED AND FAILED:

- Erenumab
- Galcanezumab
- Gabapentin
- Pregabalin
- Topiramate
- Amitriptyline
- Venlafaxine
- Anti-hypertensives
  - avoided 2/2 low bp
- Baclofen
- Rizatriptan
- Sumatriptan
- Zolmitriptan
- Frovatriptan
  - sometimes helped headaches
- NSAIDs
  - Avoided 2/2 ESRD
- Acetaminophen
- Butalbital-acetaminophen-caffeine
- Ondansetron
- Prednisone
- B/l L&G ONB 6/29/20
  - helped for 1 day, pt defers further similar interventions
- PT

CASE STUDY #2

- Largest improvement was noted after pt's kidney transplant. However, transplant failed due to graft thrombosis and ultimately underwent nephrectomy, returning to PD.
- HA's improved with Valproate but higher dosages caused intolerable side effects.
- OnabotulinumtoxinA helped overall severity and frequency of HA's. Now HA's occurring most days a month but only for a few hours and did have some HA free days.
- Addition of Fremanezumab helped further improve frequency. Experienced more HA free days at the beginning of the month, but then noted a wearing off effect throughout the month.
- Switched Fremanezumab to Atogepant recently, now having more HA free days with only mild HA's occurring infrequently and well aborted by Eletriptan.
- Current regimen with good control of HA's:
  - Preventatives: OnabotulinumtoxinA q 12 wks, Atogepant 10mg/d, Valproate 125mg TID
  - Abortives: Eletriptan 40mg prn, Prochlorperazine 10mg prn

CASE STUDY #2

- Takeaways:
  - Process of finding the right combination of therapies while addressing outside triggers/comorbidities

- Update:
  - Patient currently admitted for kidney transplant w/ no complications thus far, and improvements in HA's again noted. Will plan to follow up outpatient and ultimately wean off preventatives if appropriate.

CASE STUDY #3

- 48 year old female with past medical history of GERD, HTN, HLD, asthma
- Personal history of episodic migraine: right sided, throbbing, sensitive to light, responded to butalbital, triggered by stress. Typically has less than 4 HA days per month.
- Presents for change in typical headache pattern. One month prior to visit, she had a coughing spell which triggered a headache that “will not end”. She does report cough induced headaches in the past, but they did not last very long.

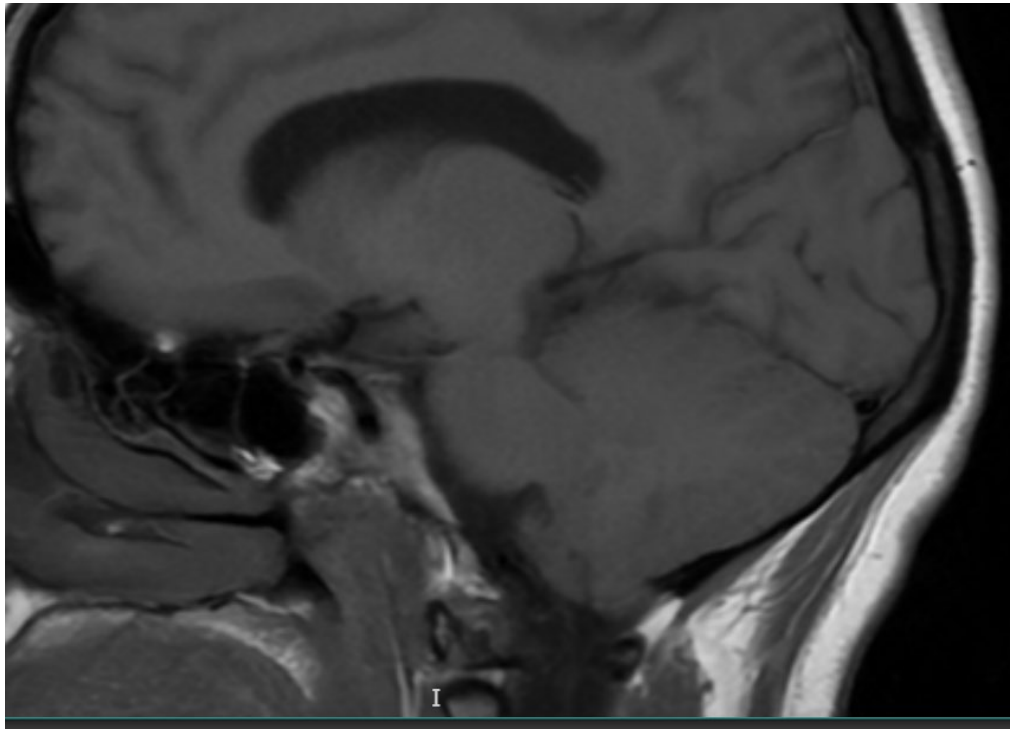
CASE STUDY #3

- Work-up: brain MRI and MRV ordered for change in headache pattern and “red flag” symptom of cough induced headache

- Treatment: triptan given for underlying migraine headaches and prednisone bridge to try break 4 week headache cycle. Magnesium recommended for prevention

CASE STUDY #3

- MRI results: The cerebellar tonsils extend approximately 6 mm (Chiari malformation) below the foramen magnum without significant crowding of structures at the foramen magnum
- MRV: no stenosis, occlusion or thrombus



CASE STUDY #3

- Follow up visit with headache clinic two months after initial visit:
  - Referred to neurosurgery who did not recommend intervention.
  - Headaches continue to be daily. No improvement with steroid bridge.
  - Rizatriptan does not help.
  - Prevention initiated with topiramate and acute change to gepant.

CASE STUDY #4

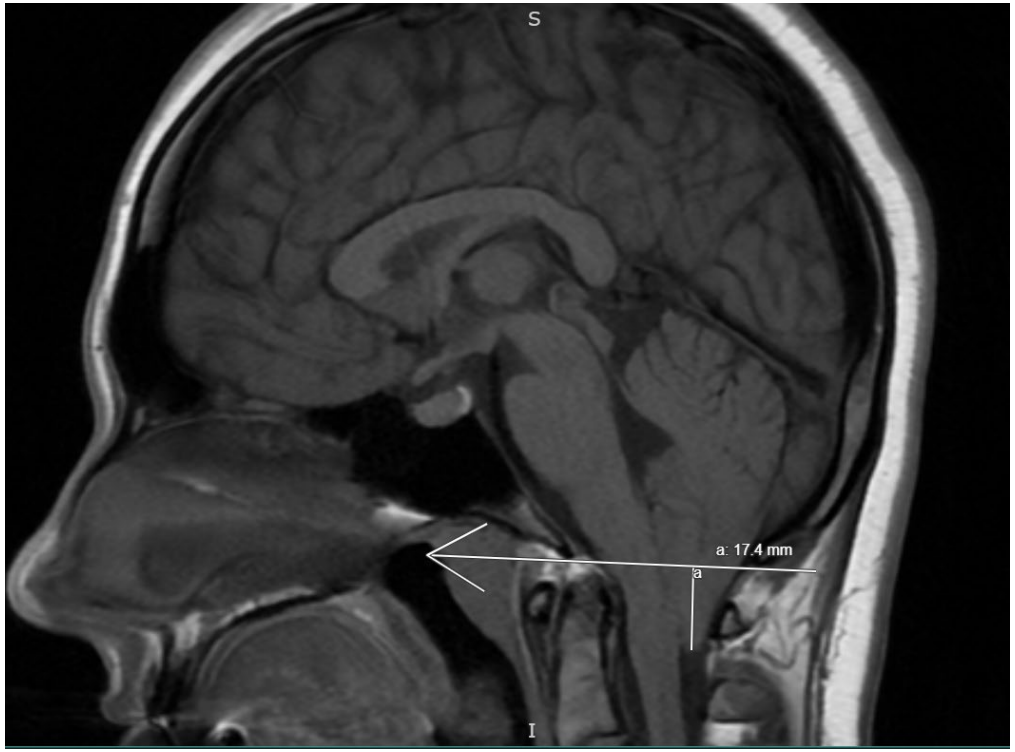
- 19 year old female with past medical history of anemia
- Migraine headaches began in elementary school (forehead, throbbing, photophobia, nausea, worsen with activity)
- Typically has 0-1 migraines per month. Treats with OTC as she had history of severe reaction to triptan in the past
- Saw PCP for headache, cough. Covid + but ordered head CT for “worsening headaches”

CASE STUDY #4

- Head CT shows no acute changes but “The cerebellar tonsils extend below the foramen magnum. Further evaluation with brain MRI is recommended.”
- Referred to neurology.
- New patient visit she endorses migraine headaches and Covid cough resolved but on questionnaire she endorses headaches worsen with cough.
- Brain MRI ordered and gepant added for acute attacks.

CASE STUDY #4

- Brain MRI findings: Normal size ventricles. The cerebellar tonsils are pointed, extending 17 mm below the foramen magnum level resulting complete effacement of the ventral and dorsal CSF space and slight AP flattening at the cervicomedullary junction.



CASE STUDY #4

Interesting Takeaways

- Both patients have Chiari malformation but the patient who extended 6 mm below endorsed more severe cough-induced headache than the patient with 17 mm below foramen magnum
- Case #2 patient may not have mentioned cough related to headache if not on new patient questionnaire. She checked that cough made headache worse.

Thank you for your attention.

Any Questions?