The Case

9 yo M with h/o migraines for 3-4 years presents with 3-4 days of worsening generalized headaches with associated photophobia and several episodes of NBNB emesis. He was seen in both PMD office and walk-in clinic on the 2 days prior to presentation with no reported exam abnormalities. His symptoms persisted, so he presented to the ER.
Review of Systems
Pertinent Positives

NEURO: +migraine HA x 3-4 yrs, +lightheadedness, +photophobia
GI: +several episodes of NBNB emesis, +nausea
ENDO: polydipsia, polyuria

Emergency Department

• BP max: **212/145** – Labetalol given
• Head CT: hydrocephalus, cerebellitis
• LP performed
• Neurosurgery consulted
Results

CBC: 15.4 401 Blood Culture pending

CMP: 133 86 10 Ca: 9.4

AST/ALT nl, Alk Phos: 308

2.4 28 0.39

CSF: 2 WBC, 68 RBC. HSV 1/2, culture: pending

EKG: QTc 600

Physical Exam
Pertinent Findings

VITALS: P 100, BP 169/103, RR 30

HEENT/NECK: no photophobia, optic disc margins

blurred b/l, no meningismus

ABD: mild TTP over LUQ

NEURO: no acute findings
Hospital Days 1-3

- Third ventriculostomy scheduled
- Neurology consulted
- Urine electrolytes: excessive K+ excretion
- Hypokalemia despite IV Potassium repletion
Unifying Diagnosis?

- Malignant Hypertension
- Obstructive Hydrocephalus
- Cerebellitis
- Hypokalemia/Urinary K losses
- Hyponatremia

Posterior Reversible Encephalopathy Syndrome (PRES)

- Clinicoradiographic syndrome
- HA, seizures, encephalopathy, vision changes
- Characteristic imaging findings due to edema
PRES

SO....

Obstructive Hydrocephalus ⇔ Hypertension
Hospital Days 3-5

- Retroperitoneal ultrasound
- Endocrinology consult
- Repeat Brain MRI: improving
- Continued Hyponatremia
Hospital Day 6

- **Aldosterone**: 59.4 (upper limit of nl 4.4)
- MRI/MRA Abd: Left renal mass

Abdominal MRI
Primary Hyperaldosteronism

VS

Secondary elevation

(renin secreting tumor)

Hospital Day 8

Renin level:

33 (normal 0.5-5.9)
RENAL JUXTAGLOMERULAR CELL APPARATUS TUMOR
Reninoma

- Overall ~ 90-100 cases, roughly 1/5 are children or adolescents
- Female predominance
- Recurrence: none reported
- Metastatic disease: two adult cases
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Questions?