

Episode 311 Recap

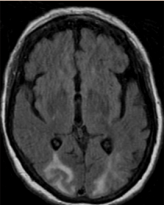


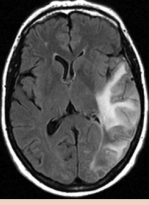
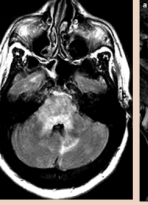
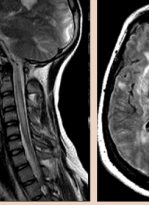
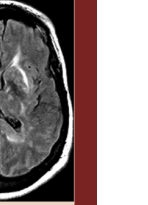
Authors: Harry Cheung and Sara Zhou

This week, the [CPSolvers](#) featured an [episode](#) from the [SLS](#)

Valeria presents a case of a teenager without significant medical history presenting in status epilepticus on a backdrop of chronic, diffuse abdominal pain, unintentional weight loss, and polyuria. Exam notable for hypertension, thyromegaly, depressed affect, dyschromatopsia, blurry vision. She was found to have hypercalcemia, hypercalciuria, and an elevated PTH. She was treated with aggressive IV rehydration, bisphosphonates, and phenytoin for the status epilepticus. A thyroid ultrasound demonstrated a hyperechoic nodule concerning for a parathyroid adenoma and an MRI demonstrated findings consistent with Posterior Reversible Encephalopathy Syndrome (PRES) thought to be due to hypercalcemia and hypertension. She underwent parathyroidectomy with improvement in her symptoms.

RADIOGRAPHIC FEATURES OF POSTERIOR REVERSIBLE ENCEPHALOPATHY SYNDROME

DEFINITION: PRES, AKA reversible posterior leukoencephalopathy syndrome, occurs secondary to **failure of autoregulation** of the posterior circulation causing disruption of the blood-brain barrier and **vasogenic edema** in the **parieto-occipital regions**

COMMON FINDINGS			UNCOMMON FINDINGS (<5%)			
						
Axial FLAIR w/ bilateral occipital hyperintensities	NCHCT w/ bilateral occipital hypoattenuation	MRA w/ "string of beads" appearance signalling vasoconstriction	Purely unilateral	"Central PRES", w/ brainstem, basal ganglia, or cerebellar involvement	"PRES-SCI", with spinal cord involvement	With parenchymal infarction or hemorrhage

Cases courtesy of Radiopaedia and McKinney, AM, Short, J, Truitt, CL, McKinney, Z, Kozak, OS, SantaCruz, KS, and Tekkam, M. Posterior Reversible Encephalopathy Syndrome: Incidence of Atypical Regions of Involvement and Imaging Findings. *Neuroradiology*. 2007;189:4. and Khokhar HV, Choudhary P, Saxena S, Arif M. Posterior reversible encephalopathy syndrome with spinal cord involvement (PRES-SCI): A case report. *Ann Indian Acad Neurol*. 2016 Jan-Mar;19(1):134-6.

@cpsolvers - Episode 311: SLS - Hypercalcemia

Teaching points

Hypercalcemia

- Symptoms are varied: hypertension, polyuria/polydipsia, GI symptoms (nausea, vomiting, constipation), neuropsychiatric symptoms (depression/anxiety, cognitive dysfunction, lethargy, and even coma)
- Differential:
 - PTH elevated/inappropriately normal:
 - Primary hyperparathyroidism: usually parathyroid adenoma or hyperplasia

- Consider MEN1/2A if with other endocrine symptoms
 - Tertiary hyperparathyroidism
 - Parathyroid carcinoma
 - Familial hypocalciuric, hypercalcemia
- PTH low: broad differential including malignancy (check PTHrp!), granulomatous diseases, lytic bone lesions

Posterior Reversible Encephalopathy Syndrome

- Symptoms include headaches, altered mental status, visual changes, and seizures
 - Commonly associated with hypertension, but also associated with autoimmune diseases and immunosuppressive medications.
 - MRI findings include areas of increased T2 signaling as well as white matter edema, typically in the posterior hemispheres
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CPS Emails Team

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