

Persistent Headache After Combined Spinal Epidural: A Case of Reversible Cerebral Vasoconstriction Syndrome

O. Lucas M.D., A. Neuenschwander M.D., A. Hackney M.D.
University of Alabama at Birmingham

Background

- Primary headaches are 20 times more likely to occur and are self resolving.¹
- RCVS is characterized by a severe, recurrent headache, often developing after a trigger, due to vasoconstriction of at least two different cerebral arteries.
- Studies have found that patients with RCVS have a clinically significant risk of ischemic stroke, intracerebral hemorrhage, and subarachnoid hemorrhage.²⁻³

(1) Stella CL, Jodicke CD, How HY, et. al.: Postpartum headache: is your work-up complete?. Am J Obstet Gynecol 2007; 196: pp. E1-e7.(2)Patel SD, Topiwala K, Otite Oliver F, Saber H, Panza G, Mui G, Liebeskind DS, Saver JL, Alberts M, Ducros A. Outcomes Among Patients With Reversible Cerebral Vasoconstriction Syndrome: A Nationwide United States Analysis. Stroke. 2021 Dec;52(12):3970-3977. doi: 10.1161/STROKEAHA.121.034424. Epub 2021 Sep 2. PMID: 34470494. (3) Garg A, Rocha M, Starr M, Ortega-Gutierrez S. Predictors and outcomes of hemorrhagic stroke in reversible cerebral vasoconstriction syndrome. J Neurol Sci. 2021 Feb 15;421:117312. doi: 10.1016/j.jns.2021.117312. Epub 2021 Jan 7. PMID: 33454590.

Pre-Operative

- Who: 31 G5P4 at 36w presents for vaginal bleeding in the setting of placenta previa
- Preoperative evaluation: Arabic speaking, prior CSx4, appendectomy, and abdominoplasty
- Plan: Repeat CS w/ CSE

Intra-Operative

- Difficulty with CSE but no obvious dural puncture w/ Tuohy
- Pt. reports feeling unwell with hypotension and bradycardia
- Epinephrine is administered: pt. with new headache, hypertension, and tachycardia
- Case proceeds, vitals stabilize, headache remains

Post-Operative

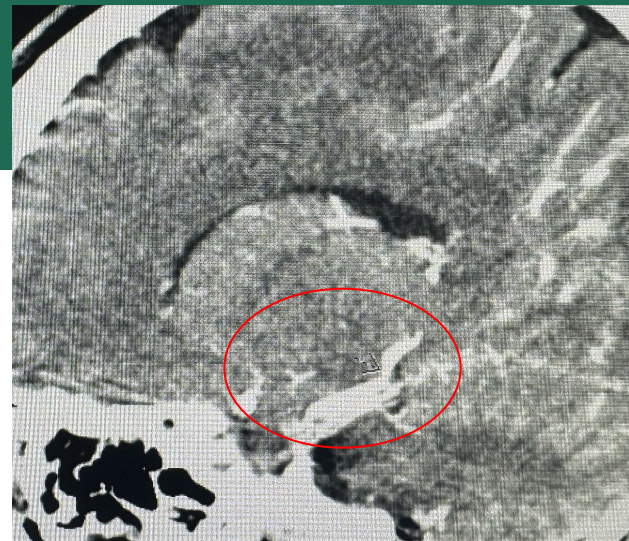
- Post-op rounds: non positional, mild generalized headache
- Return evaluation 3 days post discharge
 - Non positional and severe

Diagnosis and Treatment

- CTA showing: “multifocal luminal narrowing of bilateral MCAs, PCAs, and L ACA likely due to vasospasm vs. vasculitis
- CTA and history concerning for RCVS
- Admitted, started on verapamil, and imaged for ischemic injury

Teaching Points

- What: severe and recurrent headache or peaks within 1 min. of a trigger, vasoconstriction ≥ 2 arteries on imaging
- Incidence: approximated 3 cases per million year
- Who: female predominance
- Triggers: steroids, postpartum period, vasoconstrictors, SSRIs, etc.
- Mortality: rare $<1\%$
- Morbidity: intracerebral ischemia and hemorrhage have been documented in 11-32% of cases²⁻³



2)Patel SD, Topiwala K, Otite Oliver F, Saber H, Panza G, Mui G, Liebeskind DS, Saver JL, Alberts M, Ducros A. Outcomes Among Patients With Reversible Cerebral Vasoconstriction Syndrome: A Nationwide United States Analysis. Stroke. 2021 Dec;52(12):3970-3977. doi: 10.1161/STROKEAHA.121.034424. Epub 2021 Sep 2. PMID: 34470494. (3) Garg A, Rocha M, Starr M, Ortega-Gutierrez S. Predictors and outcomes of hemorrhagic stroke in reversible cerebral vasoconstriction syndrome. J Neurol Sci. 2021 Feb 15;421:117312. doi: 10.1016/j.jns.2021.117312. Epub 2021 Jan 7. PMID: 33454590.