

Postpartum Reversible Cerebral Vasoconstriction Syndrome Concurrent with Pre-eclampsia After Cesarean Delivery: Balancing Conflicting Goals

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Background

- **Reversible cerebral vasoconstriction syndrome (RCVS)** is an important cause of postpartum thunderclap headache with transient focal neurologic deficits
- RCVS is an acute angiopathy characterized by multifocal vasoconstriction with segmental arterial “beading” on imaging and risk of ischemic or hemorrhagic complications
- Risk factors include; female sex, puerperium, pre-eclampsia

Case

31Y G2P1, IVF pregnancy, GHTN (labetalol BID from 36/40), CD at 37+5

At ~24 hours PP, she developed;

- sudden thunderclap **headache** followed by;
- **decreased consciousness** and **focal neurologic deficits** (L side weakness + R facial droop)
- **complete resolution within 1 hour**
- normotensive throughout (102/48, 122/57)

CTA ~90 min after symptom onset: mild diffuse **intracranial arterial “beading” (Fig.1)** consistent with RCVS, no hemorrhage/infarction.

PPD3-5: Recurrent headaches/brief focal deficits; follow-up CTAs → **dynamic vasospasm**, including interval worsening with irregular narrowing of both PCAs and right ACA, followed by slight progression in ACA narrowing.

PPD4; elevated PCR confirmed **pre-eclampsia**

Labetalol was stopped and verapamil (40 mg TID) and low-dose aspirin were started with a permissive systolic BP target of 120-150mmHg. Multimodal analgesia was used to control headache and minimize sympathetic BP surges.

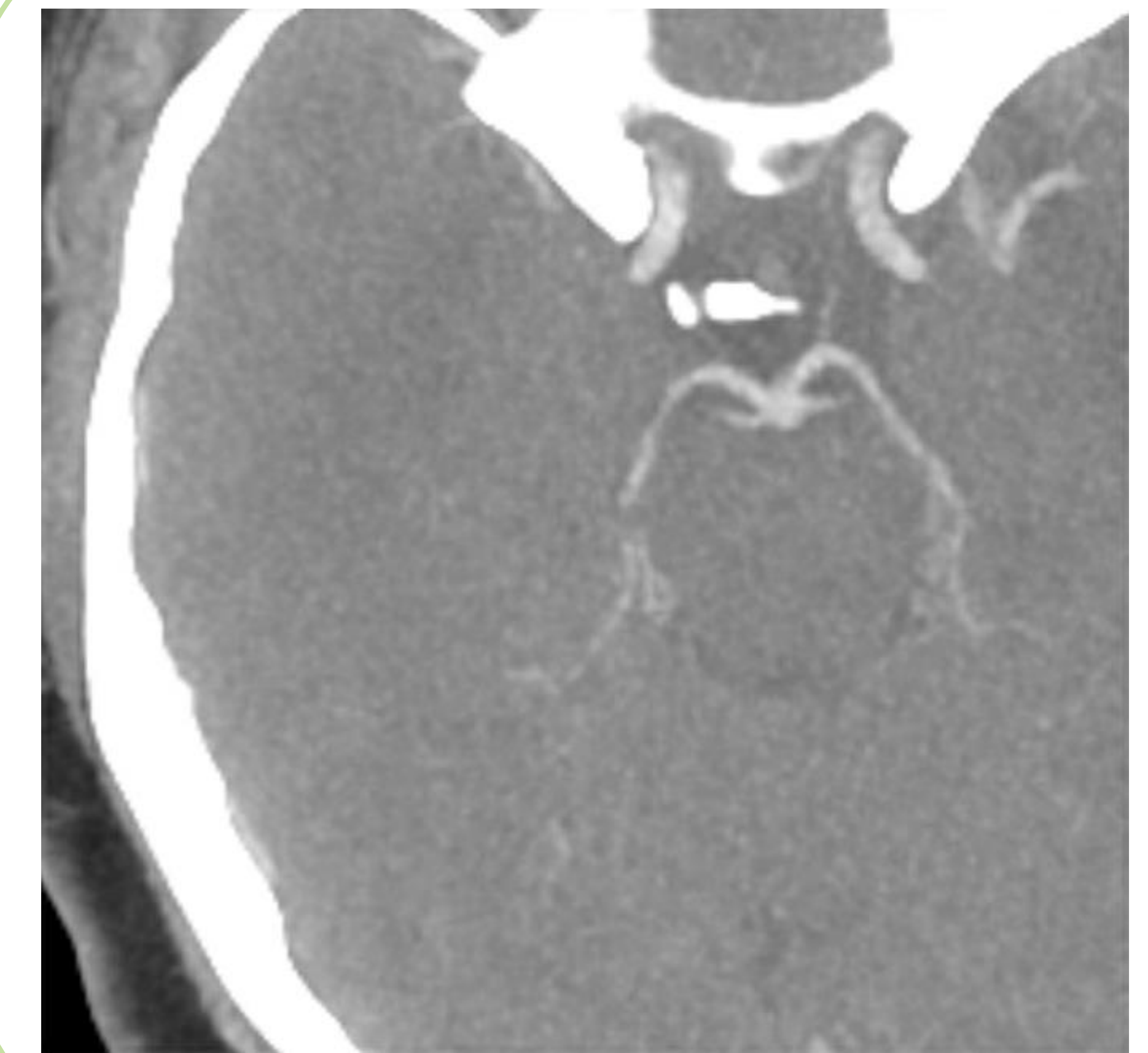


Fig.1 Initial CTA

Discussion points

Clinical features: thunderclap headache, transient neurological deficits.

Imaging is critical for diagnosis of RCVS.

No guideline consensus for management of RCVS. MDT vital.

Early Ca^{2+} channel antagonists (nimodipine, nifedipine, or verapamil).

The **challenge of balancing competing hemodynamic goals if pre-eclampsia co-exists.**

RCVS outcomes are positive: A retrospective study (of all ages) with RCVS demonstrated over 90% of patients have a good outcome, with 97.5% of patients functionally independent at follow up.

What to avoid

- hypotensive episodes
- glucocorticoid use (worse outcomes)
- SSRI's/triptans are associated with worsening vasospasm/new neurological deficits (but not worse outcomes)

