

Sudden Onset of a Severe Headache Postpartum in a Woman with Corrected Chiari I Malformation

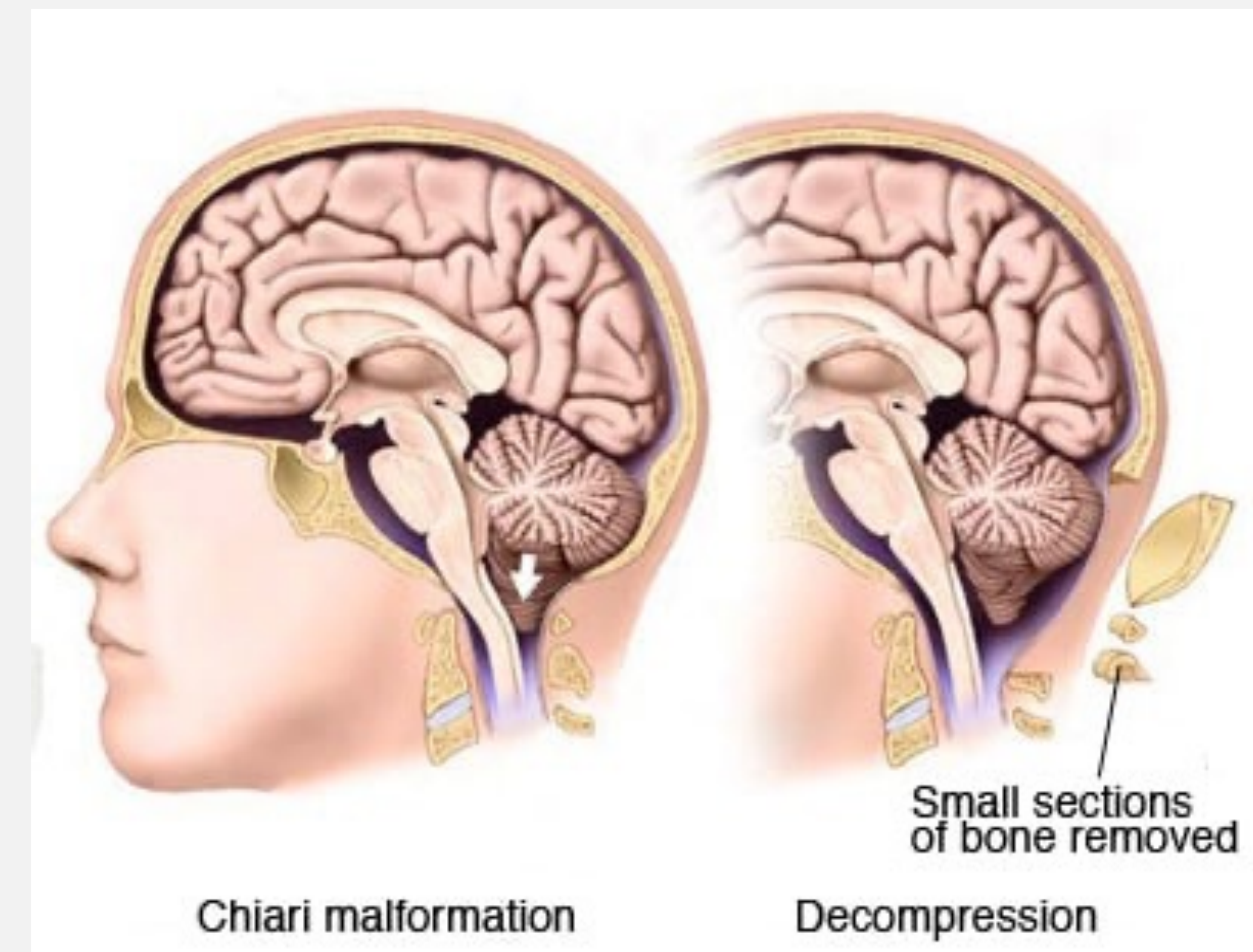
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Background

- **Chiari type I:** most common Chiari malformation (1 in 1000)₁.
- **Management determined by patient symptomatology.**
- **31F G2P1001 at 35.6 weeks with diamniotic-dichorionic twins presenting for an elective induction of labor with corrected Chiari I malformation who experienced acute neurologic changes postpartum.**



Chiari malformation

Decompression

<https://www.mayoclinic.org/diseases-conditions/chiari-malformation/symptoms-causes/syc-20354010#dialogId29488887>

Clinical Course and Treatment

Antepartum

- PMH: Chiari 1 malformation with suboccipital decompression two years prior.
- Neurosurgery consult: cleared for vaginal delivery with DPE.
- Pre-induction MRI showed patent basilar cisterns and CSF space without restricted diffusion or hydrocephalus (Fig 1-A).

Intrapartum

- New headache associated with PIEB. Epidural reset to continuous infusion with resolution of symptoms.

Postpartum

- Severe headache identical to her prior Chiari headaches.
- High BPs noted (155/88), IV labetalol.
- Neurosurgery and neurology consulted; Stat CT arterial/venous imaging were unremarkable (Fig 1-B).
- P:C ratio $>.5$, Dx with pre-eclampsia.
- Mg gtt started + headache cocktail for occipital neuralgia Dx by Neurology with resolution of symptoms PPD 2.

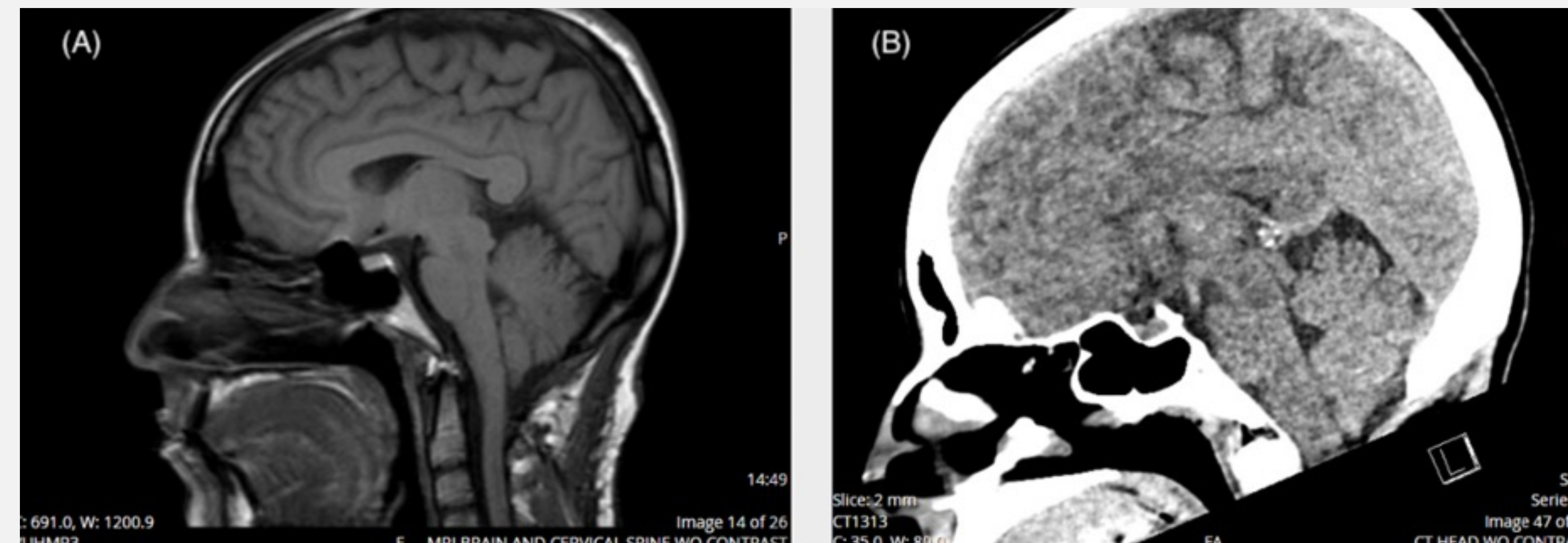


Fig 1. Peg like formation of cerebellar tonsils, below foramen magnum. Prior suboccipital decompression with patent basilar cisterns and CSF space. (A) Pre-delivery MRI (B) Post-partum CT.

Conclusion

- Differential diagnosis of new onset postpartum severe HA:
 - Worsening of the Chiari malformation
 - Pre-eclampsia
 - Post-dural puncture headache
 - Tension headache
 - Complex migraine
 - Vasospasm
 - Acute intracranial bleed
- Potential catastrophic causes should be ruled out first.
- Specialist consultation should be sought early.

- **Women with Chiari I malformation can deliver safely with an obstetric and anesthetic plan that is customized to their specific needs, despite the theoretical risk of brainstem herniation from distorted anatomy and reduced CSF drainage (2).**

References

1. PMID: 28435116
2. PMID: 32306160