

INTRODUCTION

- Labour epidural is the gold standard for labour analgesia.
- Loss of resistance for saline or air is utilised for space identification.
- According to OAA or NAP 3 it is associated with 1 in 100 incidence of PDPH. Pneumocephalus is a very rare complication.

CASE PRESENTATION

- 35-year-old lady ASA II, underwent difficult epidural placement for labour analgesia using loss of resistance for air technique.
- Difficulty in threading the catheter during initial two attempts.
- Good intrapartum analgesia with normal vaginal delivery.
- On catheter removal, complained of sudden onset, severe frontal headache associated with neck spasms and photophobia.
- Worsening in severity with supine position and head movements.
- Initially managed with analgesics, which didn’t improve the severity.
- Investigated in view of atypical presentation.

INVESTIGATIONS

- Neurological assessment- Normal
- CT Head- *Intraventricular air in the frontal horns of lateral ventricles.*
- MRI Head- Intraventricular gas with background of advanced sinus mucosal disease in maxillary, ethmoid & sphenoid sinus.
- MRA Head- No evidence of filling defects, aneurysmal dilatations or vascular malformations.
- Confirmation of pneumocephalus on imaging studies.

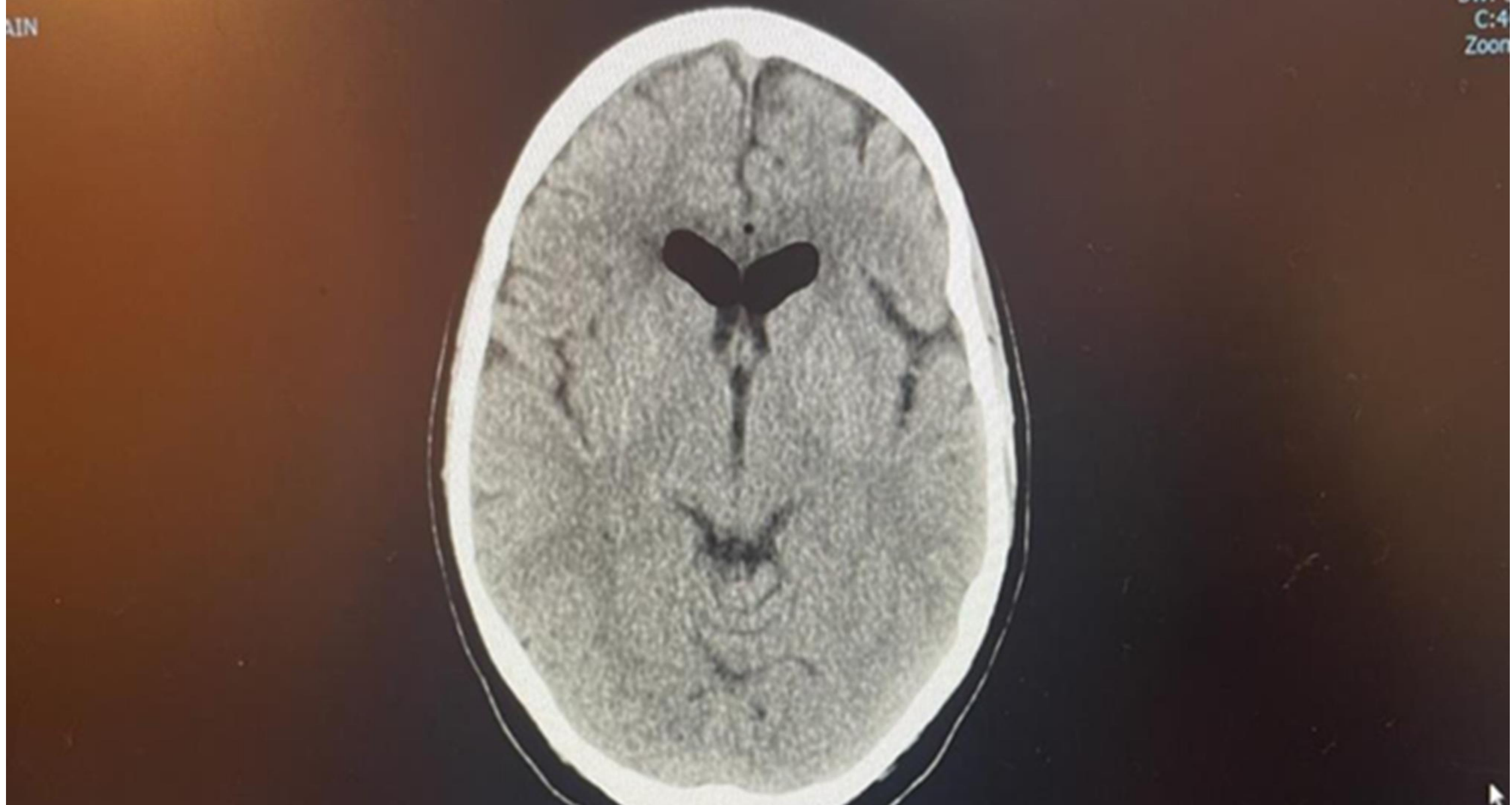
MANAGEMENT

- Neurosurgeons and neurologists advised conservative management with analgesia.
- She was monitored for worsening of symptoms indicative of tension pneumocephalus which would require for urgent surgical intervention.
- Severity reduced, more prominent in vertical position, with persistent photophobia.
- As symptoms suggestive of PDPH, blood patch done on 3rd day. This led to significant improvement and she was discharged home on 4th day.

REFERENCES

- 1) Shagufta R, Ibrahim A, Anwar S et al, Pneumocephalus following labour epidural analgesia, a rare case report. CJOG 2021;4:066-068.
- 2) RB Nolan, DA Masneri,D Pesce. Pneumocephalus after epidural injections. BMJ Case Reports 2009.

CT IMAGING



DIFFERENTIAL DIAGNOSIS

Clinical features	Pneumocephalus	PDPH
Presentation	Headache, N/V, dizziness, Cranial N palsies	Headache, N/v, neck stiffness, visual changes.
Headache Characteristics	<i>Worse with movement, not relieved on supine position</i>	Worse on sitting, relieved on supine position
Onset after lumbar anaesthesia	<i>Sudden onset, Thunderclap</i>	Delayed (Hours to days)
Quality	<i>Thunderclap</i>	Pressure
Severity	<i>Maximum at onset</i>	Mild to moderate at onset
Duration	Days	Days or weeks
Treatment	Conservative with analgesics. 100 % O2 (No trial evidence)	IV fluids, analgesics, caffeine, epidural blood patch

DISCUSSION

- Cochrane reviews and randomised trials have not shown statistical significance in air versus saline as loss of resistance technique.
- Pneumocephalus is a very rare complication of the air technique but it should be included in the consent.(As little as 2ml of air can cause symptoms).
- Managed conservatively with analgesics and rest.
- Case reports have shown benefit from oxygen therapy, but not proven in trials.
- Approximate effective radiation dose for CT Head-1.6 mSv, but anaesthetists should have a low threshold for imaging in atypical presentation.
- Epidural blood patch not reported in literature in background of pneumocephalus.

This would be the first case that has shown success.