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CASE IMAGE

Life-threatening pontine hemorrhage secondary to HELLP syndrome

Sajjad Ali[1] | **Sara Anjum Fazal**[1] | **Syed Abdullah Monawwer**[1] | **Mahfuza Anan**[2]

[1]Department of Medicine, Ziauddin Medical University, Karachi, Pakistan

[2]Bangladesh Medical College, Dhaka, Bangladesh

Correspondence
Mahfuza Anan, Bangladesh Medical College, Road No. 14A, Dhaka 1209, Bangladesh.
Email: mahfuzaanan980@gmail.com

Key Clinical Message

HELLP syndrome is a severe form of pre-eclampsia that typically develops prior to delivery but can sometimes happen postpartum. The classic triad of HELLP syndrome comprises of hemolysis, elevated liver enzyme levels, and low platelet counts. This condition is known to have a higher incidence of fatal neurological complications, such as pontine hemorrhage, when compared to a typical pre-eclampsia.

KEYWORDS

eclampsia, HELLP syndrome, hypertension, pontine hemorrhage, postpartum

1 | CASE DESCRIPTION

A 35-year-old pregnant female P^{4+0}, g^5 was presented to our hospital at 39+ weeks of gestation with uterine contractions. A few hours after her admission, she had a normal vaginal delivery.

However, 15 hours after delivery, the patient complained of a severe throbbing headache (9/10 intensity) and diffused abdominal pain associated with nausea and emesis. Her blood pressure (BP) was recorded at 200/140 mm Hg. General and neurological examinations gave non-significant findings with no signs of meningism or focal neurological symptoms. The patient was started on intravenous (IV) Hydralazine 10 mg over 10 min, lowering the BP to 175/110 mm Hg. Baseline complete blood count and liver function tests were sent.

An hour later, the patient developed generalized tonic–clonic seizures with up-rolling of the eyes. The seizures were controlled using IV Dormicum (Midazolam) 5 mg. In addition, she was started on IV Magnesium Sulfate infusion at 25 mL/h and IV Hydralazine infusion of 5 mg/h. Her condition was stabilized.

Given the patient's hypertension, and elevated liver enzyme levels (alanine aminotransferase, 753 U/L; aspartate aminotransferase, 1228 U/L), low platelet (51×10^3/μL), and low hemoglobin levels (6.5 g/dL), prothrombin time 9.6 s, a diagnosis of HELLP syndrome was made.

Seven hours after the onset of symptoms, the patient suddenly became agitated, complained of a worsened headache, and had an eventual loss of conscience. Another neurological examination revealed pin-point pupils with a sluggish reaction to light and a low GCS of 5/15. The patient's saturation dropped and was therefore placed on a mechanical ventilator. Emergent non-contrast-enhanced computed tomography of the head showed a large pontine hemorrhage with an intraventricular bleed and hydrocephalus (Figure 1). She was shifted to the intensive care unit, where she was found to have fixed and dilated pupils with bilateral retinal hemorrhages, absent corneal reflexes, and oculocephalic and gag reflexes. All signs were

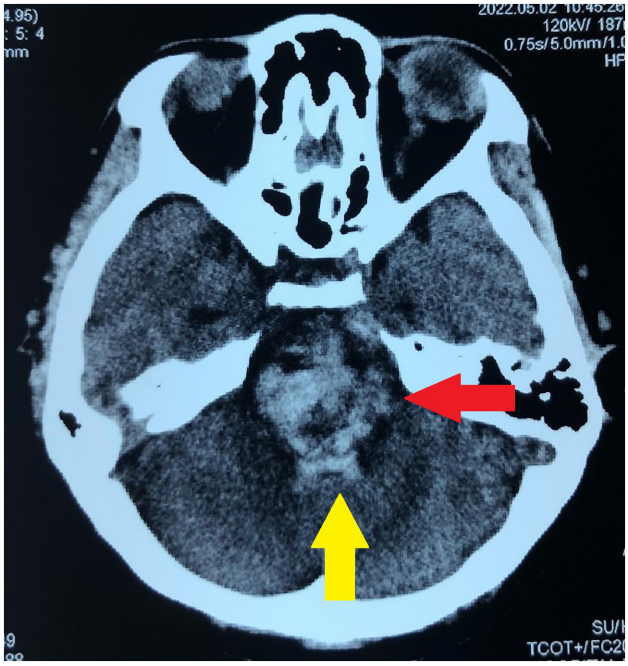

FIGURE 1 Acute moderate volume pontine hemorrhage reaching superiorly up to midbrain (red arrow) with mild associated subarachnoid component in adjacent basal cisterns showing cleavage into the fourth ventricle (yellow arrow).

consistent with brain death. The family was counseled regarding the patient's prognosis, and she was disconnected from the ventilator.

2 | DISCUSSION

HELLP syndrome is a rare condition that often occurs unexpectedly, particularly postpartum. This can lead to a series of fatal complications, with the most common ones being intracranial hemorrhages and strokes, which conversely have a higher incidence post-delivery. They are the primary cause of mortality in 26.4% of HELLP syndrome-related deaths.[1]

Our case highlights the importance of prompt diagnosis of HELLP syndrome in symptomatic patients through laboratory studies and the early preventative interventions for HELLP-inducted hemorrhage, given its rapid development and deterioration. We further highlight the disparity in treatment between patient groups and hospital settings, given that in our case, the CT scan was not done only until the patient had a complete loss of consciousness owing to financial constraints. Given the patient's initial seizure episode, it is possible that she had a minor, primary hemorrhage before developing the massive bleed 7 hours later, which eventually led to her demise. In which case, despite occurring in a difficult to operate area, an early diagnosis and management of the IC bleed through surgical drainage, and BP control may have improved her outcome.[2,3]

AUTHOR CONTRIBUTIONS

Sajjad Ali: Conceptualization; project administration; supervision; writing – original draft; writing – review and editing. **Sara Anjum Fazal:** Data curation; formal analysis; investigation; methodology; visualization; writing – original draft. **Syed Abdullah Monawwer:** Formal analysis; funding acquisition; resources; software; validation; writing – review and editing. **Mahfuza Anan:** Formal analysis; funding acquisition; resources; software; validation; writing – review and editing.

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FUNDING INFORMATION

None.

CONFLICT OF INTEREST STATEMENT

The authors declare that they have no competing interests.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

ETHICAL APPROVAL AND CONSENT TO PARTICIPATE

The study was conducted in accordance with the Declaration of Helsinki. The paper is exempt from ethics committee approval as only one case was reported.

CONSENT

The patient gave written consent for their personal or clinical details and any identifying images to be published in this study.

ORCID

Sajjad Ali https://orcid.org/0000-0002-8024-5942
Syed Abdullah Monawwer https://orcid.org/0000-0002-0372-4309
Mahfuza Anan https://orcid.org/0009-0004-9176-4782

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