

# LATE POSTPARTUM ECLAMPSIA COINCIDENT WITH POSTDURAL PUNCTURE HEADACHE: A CASE REPORT

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*Preeclampsia developed in this patient 4 days' postpartum. Visual changes, headache, and elevated blood pressures were present on arrival to the emergency department. Coincident with the preeclampsia was a postdural puncture headache complicating the diagnosis of late postpartum preeclampsia. Pregnancy-induced hypertension laboratory values were normal, and relief of the postdural headache and visual disturbances was obtained after placement of an epidural blood*

*patch. Blood pressures continued to increase, however, and late postpartum eclampsia developed. We conclude that symptoms of a postdural puncture headache can mimic those of postpartum preeclampsia. Early recognition and treatment of postpartum preeclampsia may decrease patient mortality and morbidity by preventing late postpartum eclampsia.*

**Key words:** Epidural blood patch, late postpartum eclampsia, late postpartum preeclampsia, postdural puncture headache.

**L**ate postpartum eclampsia (LPE), an uncommon variant of eclampsia, is a complication of pregnancy acknowledged by most experts and is well described in the literature.<sup>1-5</sup> Postdural puncture headache (PDPH) is a known complication of epidural analgesia/anesthesia. This is a case report of a patient who developed LPE coincident with a PDPH.

## Case summary

A 24-year-old, 95-kg woman was admitted to labor and delivery in active labor at 38 weeks' gestation. Her medical and surgical history were noncontributory. Her obstetrical history included an unremarkable spontaneous vaginal delivery at term with a continuous lumbar epidural for labor analgesia. On admission, her vital signs were: blood pressure, 130/76 mm Hg; pulse, 92 beats per minute; and respiratory rate, 18 breaths per minute.

Labor analgesia was requested by the patient and ordered by her obstetrician. During an attempted continuous lumbar epidural placement with an 18-gauge Touhy needle at the L3-4 interspace, a dural puncture occurred. A subsequent continuous lumbar epidural was placed at the L2-3 interspace without difficulty. The remainder of her labor was uneventful and she delivered vaginally. Her blood pressures remained normal during labor, delivery, and into the immediate postpartum period. She was counseled on the signs and symptoms of a PDPH and was transferred to the postpartum ward.

Late in postpartum day 1, she complained of a headache. Physical examination revealed a normal

blood pressure and a probable PDPH, as evidenced by a mild postdural puncture headache, with no other symptomatology. Conservative treatment with oral fluids and caffeine was initiated. She reported a mild decrease in her symptoms. An epidural blood patch was offered, which the patient declined. She was allowed to go home after receiving discharge instructions regarding the PDPH.

On postpartum day 4, the patient presented to the emergency department with a severe postdural puncture headache along with visual disturbances. Blood pressures were noted to be elevated at 160-170/90-100 mm Hg. Physical examination revealed deep tendon reflexes of 3 to 4+ with clonus. Liver function panel, electrolytes, urine protein, and coagulation profile were normal. The on-call obstetrician and anesthesiologist were consulted. A diagnosis of PDPH was made, and an epidural blood patch was performed without difficulty using an 18-gauge Touhy needle at the L2-3 interspace with the patient in the sitting position. The patient reported relief of the headache and visual changes after 10 minutes. Despite her subjective symptomatic relief, over the next 60 minutes blood pressures increased to 170-180/100-115 mm Hg and a generalized tonic-clonic seizure occurred. Oxygen was administered, and the seizure stopped before initiation of anticonvulsant therapy. The patient maintained her own airway throughout the seizure. A subsequent diagnosis of LPE was made and the patient was started on magnesium sulfate. A neurological consult was sent, and the neurologist concurred with the diagnosis.

The patient was admitted to the hospital for treatment and monitoring. Blood pressures remained ele-

vated, and the patient was treated with hydralazine in addition to the magnesium sulfate. Over the next 4 days, the patient's status improved and she was subsequently discharged. Follow-up at the 2- and 4-week marks showed continued improvement of her blood pressures with values returning to predelivery baseline.

## Discussion

Thomas, in 1998, described the classic clinical presentation of eclampsia to include seizures or coma occurring in the third trimester or early puerperium in women already exhibiting the preeclamptic symptoms of proteinuria, edema, and hypertension.<sup>6</sup> Eclampsia can be further subdivided into early postpartum eclampsia occurring within 48 hours, or LPE occurring after 48 hours.<sup>2</sup>

Postpartum eclampsia is not as rare a condition as once thought. Watson et al reviewed 132 cases of eclampsia and found that 37 (27%) occurred in the postpartum period. Of these, 17 (47%) occurred at least 48 hours postpartum.<sup>7</sup>

A confusing variable associated with LPE is that it can occur in women who were not previously diagnosed with preeclampsia. Lubarsky et al reported that in a study of 334 women who developed eclampsia, 16% were diagnosed with LPE. Of these, 44% had not been previously diagnosed with preeclampsia.<sup>2</sup>

PDPH is a self-limiting and usually benign condition that if left untreated can result in total incapacitation secondary to the postdural puncture headache and photophobia and increased mortality and morbidity.<sup>8</sup> Some reported complications of persistent cerebral spinal fluid leak include subdural hematoma, vertigo, visual disturbances, and cranial nerve palsies.<sup>9</sup>

In our case, the PDPH may have obscured the diagnosis of late postpartum preeclampsia. The hypertension was attributed to anxiety and pain, while the headache and visual changes were attributed to the dural puncture. Subjective signs such as these can serve as clinical warnings to impending convulsions. Routine counseling to all parturients should occur

regarding the signs and symptoms of eclampsia since LPE occurs in the normal uncomplicated parturient as well as those who were diagnosed with preeclampsia.

When a dural puncture occurs and a PDPH develops and persists, epidural blood patch remains the definitive treatment. A different diagnosis for postpartum headache, visual disturbances, and elevated blood pressures in the postpartum period should include PDPH and late postpartum preeclampsia as well as other pathology.

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