CASE REPORT

Posterior-Reversible-Encephalopathy Syndrome and Antepartum Eclampsia

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Introduction

PRES is a cliniconeuroradiologic entity in which the patient presents with headache, altered mentation, seizures, cortical blindness, and rarely focal neurologic signs. On imaging in majority of cases, characteristic changes suggestive of edema are noted in the posterior irrigation area of the brain. One of the differential diagnoses of PRES in pregnancy and postpartum period is cortical venous thrombosis [1]. Our case is a primigravida at 35 weeks of pregnancy with antepartum eclampsia, cortical blindness, and PRES, who responded favorably to treatment.

Case Report

Mrs X, 33-year-old primigravida was referred to us at 35 weeks of gestation with one episode of generalized tonic–clonic seizures with raised blood pressure and sudden loss of vision. Before this, her antenatal period was uneventful with normal BP recordings.

On examination patient was found to be drowsy, her BP was 200/160 mm of Hg, respiratory system was clear with

equal air entry on both sides. On per abdomen examination, uterine size was 28 weeks, suggestive of intrauterine growth restriction. Fetal heart rate was 110 beats/min. Per vaginam cervix was unfavorable. Her blood investigations including renal function tests and coagulation profile were within normal limits. USG done showed a live fetus of 29 weeks gestation with oligohydramnios and an estimated weight of 1.2 kg. She was started on Magnesium sulfate therapy (Pritchard regimen) and antihypertensive drugs. Initially BP was controlled with iv Labetelol followed by Tab Nifedipine. Ophthalmologist and neurophysician's opinions were sought. Her fundus examination was normal, and CT scan picture showed cortical and subcortical hypodensities suggestive of PRES. She was started on Inj Mannitol, Inj Phenytoin, and Oral Glycerol after consulting with neurophysician and after explaining the patient's condition to her attendants, she was posted for an emergency C-section. She delivered a preterm baby weighing 1.19 kg with an apgar of 5 at 1 min.

Postoperatively patient had a satisfactory recovery with normalization of blood pressure and complete restoration of vision on second postoperative day (POD). On the 6th POD, MRI was done which showed resolution of hypodensities favoring a diagnosis of PRES. She was discharged on the 10th POD on tab phenytoin 100 mg tds, tab acetazolamide 250 mg bd, and syp. Glycerol. She came for review one week later and again after a month. She was asymptomatic and doing well. Neurophysician reviewed the case and has advised her to continue with phenytoin for further three months.

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Discussion

Hinchey et al. [2] in 1996 described this entity and suggested that PRES represented a localized manifestation of hypertensive encephalopathy occurring secondary to a hypertensive crisis. Visual perception abnormalities are invariably observed. PRES has been described in hypertensive encephalopathy, preeclampsia, eclampsia, infections, electrolyte imbalance, hypercalcemia, and immunosuppressive drugs like Tacrolimus and Cyclosporine. Two theories exist for the pathogenesis of PRES. The first suggests hypertension causes a failure of cerebral autoregulation causing an injury to the capillary network, and thus hyperperfusion causing a vasogenic cerebral edema. The other theory suggests endothelial dysfunction causing vasoconstriction and hypoperfusion which leads to ischemia and vasogenic edema [3]. The diagnosis can be made via Computed Tomography (CT), but Magnetic Resonance imaging (MRI) is a more sensitive modality. The radiologic appearance of PRES does not seem to be influenced by the predisposing factor. The most common abnormalities on CT/MRI are focal regions of vasogenic edema involving the white matter in the posterior cerebral hemispheres and involving the parieto occipital lobes bilaterally. Therapeutic strategy depends on the cause of PRES. The mainstay of treatment is blood pressure regulation, control of seizures, and antiedema therapy. One of the differential diagnosis of PRES in pregnancy and postpartum period is cerebral venous thrombosis [2]. Early

diagnosis and treatment is crucial in preventing permanent neurologic sequelae. The clinical presentation of eclampsia and cortical blindness with a CT scan picture indicative of PRES helped in clinching the diagnosis in this case. A multidisciplinary approach, prompt control of BP, seizures, and antiedema measures, helped in the complete recovery of this patient.

Conclusion

We have presented this case report to (1) emphasize that prompt recognition and treatment is important in preventing permanent neurologic damage that can occur in this otherwise typically reversible condition; and (2) in most cases of PRES, cerebral lesions and neurologic symptoms disappear with aggressive control of blood pressure and treatment of seizures.

References

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