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Case report on atypical Posterior Reversible Encephalopathy Syndrome (PRES) associated with antepartum eclampsia

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Abstract

A 21-year-old woman primi gravida with gestational age 39 week 3 days was presented to emergency department with 2 episodes of new onset tonic-clonic seizures. Upon admission her blood pressure was found to be 150/100mm of Hg (no past history of hypertension) and pulse rate 104bpm. She was found to be proteinuria (2+) by dipstick urine analysis. Based on evidences she was diagnosed as ante partum eclampsia and was stabilized with Inj. Labetalol 20mg, Inj MgSo4 loading dose as per Pritchard regimen and Inj mannitol 100 ml. Later she was posted for emergency LSCS and gave birth to a child with CPD during labor. During the post operative day two patient experienced severe headache, nausea and blurred vision. She was ordered for MRI which revealed a clear picture of Posterior Reversible Encephalopathy Syndrome (PRES) with bilateral symmetrical T2 and FLAIR hyper intensities involving predominantly cortical and sub cortical white matter bilateral fronto-parietal and occipital lobes. PRES is usually reversible and patient improved after management with antihypertensives, antiepileptic and monitoring of blood pressure.

Keywords

eclampsia; proteinuria; encephalopathy; reversible; MRI

Abbreviations

CPD: Cephalo pelvic disproportion; LSCS: Lower segment caesarean section; MRI: Magnetic resonance imaging; PRES: Posterior reversible encephalopathy syndrome; HELLP: Hemolysis elevated liver enzymes low platelet count

Introduction

Posterior reversible encephalopathy syndrome (also known as posterior leuko encephalopathy syndrome) is a clinical-neuro-radiological syndrome that is caused due to various underlying clinical condi-

tions like preeclampsia, eclampsia, hypertension, HELLP syndrome, systemic lupus, sepsis and also by use of immunosuppressive or anticancer agents(cyclosporine, tacrolimus) [1]. It is characterized by severe headache, encephalopathy, seizures, cortical visual disturbances or blindness, altered consciousness, nausea, vomiting, focal neurologic deficits, stupor and coma [2]. Typical PRES is best detected by T2-weighted and fluid-attenuated inversion recovery (FLAIR) MRI, which is the golden standard [3] .Treatment, is focused on the precipitating cause and use of antihypertensive, anti epileptics and withdrawal of offending agents [4]. Delay in diagnosis of PRES may lead secondary complications such as status epilepticus, intracranial hemorrhage, and ischemic infarction [5]. The incidence of PRES is not precisely known with regards to preeclampsia/ eclampsia. Many studies recorded that almost 100% of eclamptic patients had reversible posterior encephalopathy [6,7].

Case Report

A 21-year-old woman primi gravida with gestational age 39 week 3 days was presented to emergency department with 2 episodes of generalized tonic-clonic seizures, frothing and loss of consciousness after seizures. Physical examination revealed that she was pallor with bilateral pedal edema. vitals such as temperature was normal (98.6 F), blood pressure 150/110 mm of Hg and pulse rate 104 bpm. Physician ordered for complete blood picture and findings revealed Hb- 7.5 g%, Platelet-1.35lakhs/cumm, WBC-24500 (70, 23, 7, 0), Pcv-27.8vol%, MCV-78.5fl, MCH-27.8pg, MCHC-35.6%. Proteinuria (2+) was noted in dipstick urine analysis. Based on the lab findings and patient manifestations physician diagnosed it as Ante partum Eclampsia and she was stabilized with Inj. Labetalol 20mg, Inj MgSo4 loading dose as per Pritchard regimen and Inj mannitol 100 ml.

Later after stabilization she was posted for emergency LSCS and gave birth to a child cephalopelvic disproportion during labor. There were no signs of post-partum hemorrhage and uterus detracted well. Post-operative care was taken and drugs such as cefotaxime, metronidazole, diclofenac, amlodipine and ranitidine were provided. During the post-operative day two patient experienced nausea, blurred vision and severe headache. Further MRI revealed the classic picture of bilateral symmetrical T2 and FLAIR hyper intensities noted involving predominantly cortical and subcortical white matter bilateral fronto-parietal and occipital lobes and in capsuloganglionic regions which confirmed PRES that is associated with ante partum eclampsia as shown in Figure (1).

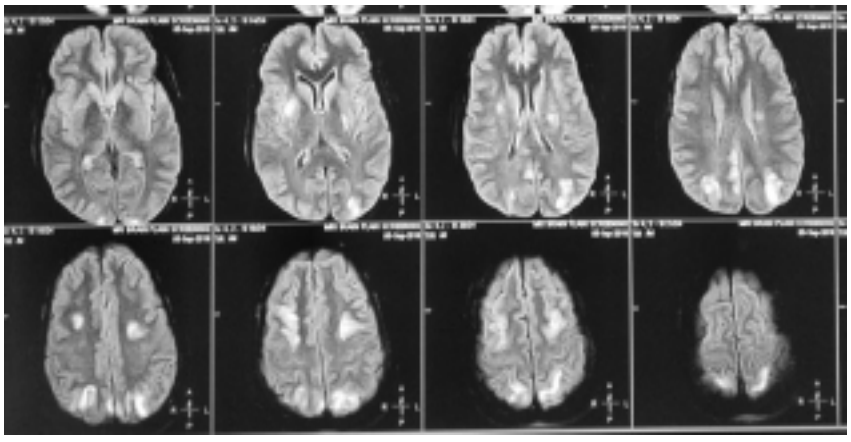

Figure 1: MRI showing bilateral hyper intensities in the occipital and visual cortex region

PRES is usually treated by managing the underlying cause/condition. Patient was shifted to general medicine and treated with T. phenytoin 100mg OD, low dose Mgso4 and T. amlodipine 10mg OD .PRES symptoms resolved after controlling the blood pressure. Patient vitals were monitored closely. Post natal care instructions were given and she got discharged one week after post partum, by then her clinical symptoms and vitals were found to be normal.

Discussion

Eclampsia is the new onset of grand mal seizure activity and/or unexplained coma during pregnancy or postpartum in a woman with signs or symptoms of preeclampsia (BP>140/90mmHg with proteinuria) [8]. Eclamptic seizures may lead to severe nervous system complications in pregnant woman one of which is the posterior reversible encephalopathy syndrome. The proposed pathophysiology theories includes 1) Severe hypertension leads to failed auto-regulation, subsequent hyper perfusion, with endothelial injury/ vasogenic edema and; 2) vasoconstriction and hypo perfusion leads to brain ischemia and subsequent vasogenic edema [9]. Here the patient was not known case of hypertension and seizures .she developed the symptoms of eclampsia prior to delivery that led to the cause of PRES in this patient with clear evidence of bilateral symmetrical T2 and FLAIR hyper intensities in MRI. She was treated reasonably with labetalol, amlodipine, magnesium sulphate and phenytoin to control blood pressure and seizures .PRES symptoms were resolved and patient was stabilized.

Conclusion

Early detection of risk to preeclampsia/eclampsia in pregnant woman is most important. PRES is usually reversible if its precipitating cause is managed properly. Further, MRI would be helpful to distinguish PRES from other neurological diseases.

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References

1. Bartynski WS. Posterior Reversible Encephalopathy Syndrome, Part 1: Fundamental Imaging and Clinical Features AJNR Am J Neuroradiol. 2008; 29: 1036–1042.

2. Garg RK, Kumar N, Malhotra HS. Posterior reversible encephalopathy syndrome in eclampsia. Neurol India 2018; 66: 1316-1323.

3. Valecha SM, Koshish SA, Gandhewar MR, Dhingra D. PRES in pregnancy: MRI and its role in decision making. Int J Reprod Contracept Obstet Gynecol. 2013; 2: 701-703.

4. e-pearl of the week: posterior reversible encephalopathy syndrome.

5. Nielsen LH. Posterior reversible encephalopathy syndrome postpartum Clinical Case Reports 2015; 3: 266–270.

6. Brewer J, Owens MY, Wallace K, et al. Posterior reversible encephalopathy syndrome in 46 of 47 patients with eclampsia. Am J ObstetGynecol 2013; 208: 1-6.

7. Wagner SJ, Acquah LA, Lindell EP, Craici IM, Majken T. Wingo, et al. Posterior Reversible Encephalopathy Syndrome and Eclampsia: Pressing the Case for More Aggressive Blood Pressure Control Mayo ClinProc.September 2011; 86: 851-856.

8. Medscape (https://emedicine.medscape.com/article/253960).

9. Bartynski WS. Posterior Reversible Encephalopathy Syndrome, Part 2: Controversies Surrounding Pathophysiology of Vasogenic edema AJNR Am J Neuroradiol. 2008; 29: 1043–1049.

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