

## Acute Blindness in Pregnancy in Setting of Sever Preeclampsia and PRES

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### Abstract

We report a case of 31 years old primigravida twin pregnancy who presented with acute blindness and preeclampsia, MRI showed picture of PRES, multidisciplinary team were involved in the management patient stabilized and delivered immediately, regain Her vision within 48 hours of delivery, discharged home on antihypertensive treatment in stable condition.

**Keywords:** Preeclampsia; Magnetic Resonance; Multidisciplinary Team

### Abbreviations

PRES: Posterior Reversible Encephalopathy Syndrome; Di: Dichorionic Diamniotic; IVF: *Invitro* Fertilization; MCA: Middle Cerebral Artery; MRI: Magnetic Resonance Imaging; LDH: Lactate Dehydrogenase

### Introduction

Posterior reversible encephalopathy syndrome (PRES) is a neurologic disorder characterized by headaches, seizures, altered mental status, and loss of vision. Diagnosis of PRES is made based on history, examination and imaging like MRI which usually showed evidence of vasogenic oedema [1]. Management of PRES includes multidisciplinary team involvement, removal of any underlying cause, control of blood pressure and delivery. And in most cases if it is managed timely and appropriately, the disease is reversible.

### Case Presentation

31-year-old, Primigravida IVF twins Di-chorionic Di-amniotic 26+ weeks presented to the accident and emergency with headache, sudden loss of vision, and Bilateral pedal edema no vomiting no epigastric pain.

Vital sign showed blood pressure of 143/94 -165/107 protein +3, abdomen soft lax non tender fundal level of 28 weeks fetal heart positive for both twin lower limbs showed exaggerated reflexes, she was assessed by ophthalmologist which confirmed normal ocular examination, patient was assessed with neurology and no other neurological deficit, MRI requested which showed right parieto-occipital cortical areas of diffusion restriction seen. The basal ganglia, lateral thalamus, and some cortical gyri show increased signal intensity (Picture of PRES).

Us obstetric showed normal growth for both twin, Doppler study of umbilical artery showed high indices Fetal MCA shows abnormal flow with low PI: 1.46 and RI: 0.73, indicating compensatory cerebral arterial vasodilatation.

Lab was normal apart from high uric acid [390 micromol/liter] and LDH [291 unit/liter], urine protein ratio > 347 mg/mmol urine protein > 6 gm.

Patient was assessed as a case of sever preeclampsia with PRES. stabilized with intravenous labetalol and had emergency caesarean section outcome first twin male 950 grams Apgar score 4 and 8 in 1 minute and 5 minutes second twin male 830 grams Apgar score 5 and 9 in 1 and 5 minutes and normal cord ph. Regarding eye blindness recovered gradually within 48 hours of surgery, she was discharged on oral labetalol with controlled blood pressure with outpatient follow up.

Placental histopathology of first placentae showed chorionic villi with mild increase in intervillous fibrin; second placentae showed chorionic villi with infarction and increased intervillous fibrin.

### Discussion

Patient presenting with acute blindness in pregnancy representing a clinical dilemma for any clinician with various possibilities such as cerebrovascular accident, preeclampsia, eclampsia and PRES [2].

Our case is unique as the first presentation in pregnancy was headache and blindness. Then high blood pressure and proteinuria were found upon presentation with insignificant laboratory results related to preeclampsia.

PRES usually manifested with headache, seizures, and vision loss and change in mental status which could be variable [3]. Seizure can be single or multiple [usually tonic-clonic convulsion] [4]. Cortical blindness is characterized by intact pupillary reflexes and normal fundoscopic findings such in our case. The vision loss is usually regained within 4 hours to 8 days post-delivery, in our case recovery of vision took 48 hrs [5].

Despite preeclampsia and eclampsia among the most common causes of PRES, medical conditions as a cause of PRES need to be ruled out.

The pathophysiology of PRES is not completely understood but the two main theories are failure of cerebral autoregulation and endothelial damage which led to vasogenic cerebral oedema [6].

MRI brain is a gold standard for diagnosis of PRES [3]. Typical MRI appearance of press is bilateral symmetrical hyperintense [bright] areas mainly in parieto-occipital white matter; the cortex may also be involved with vasogenic oedema, CT scan can be used to exclude hemorrhage, as anormal CT doesn't exclude PRES [7].

It has been found that, in most cases of PRES, the neurological symptoms and cerebral lesions disappear completely within days to weeks after control of blood pressure [8].

The overall prognosis of PRES is usually good; PRES is reversible in most cases if recognized early and treated appropriately. clinical improvement is typically within days to weeks; MRI abnormalities usually take 1 - 3 months to resolve [8].

The mortality rate is around 3% - 6% [9]. The recurrence of PRES is rare [10].

### Conclusion

It is very important to put PRES as one of the differential diagnoses when a pregnant lady is presented with one of the symptoms of headache, blindness, multiple seizures, or change in mental status in setting of pre-eclampsia.

Early recognition, blood pressure control, and delivery are standard to achieve good outcomes in cases of PRES.

Mother support, explanation, and expectation about the disease is important due to unusual presentations.

### Conflict of Interest

I have no conflict of interest.

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