



A Case Report of Eclampsia Predisposing to Pres: (Posterior Reversible Encephalopathy Syndrome)

Authors

Dr Saurabh Goel¹, Dr Jyoti Shahi², Dr Sujit Shahi³, Dr Sandeep Rai⁴

^{1,2,3}Resident, MGM Hospital and College, Kamothe, Navi Mumbai, India

⁴Professor, MGM Hospital and College, Kamothe, Navi Mumbai, India

Abstract

Background: Posterior reversible encephalopathy syndrome or reversible posterior leukoencephalopathy syndrome presents with headache, seizures, altered consciousness and visual disturbances associated with conditions like acute hypertension, vascular and autoimmune disease, immunosuppressant drugs and organ transplantation. The incidence of involvement of the different regions of the brain is- parieto-occipital 98.7%; posterior frontal 78.9%; temporal 68.4%; thalamus 30.3%; cerebellum 34.2%; brainstem 18.4%; and basal ganglia 11.8 %.

Case Report: A 28 year old female (G3P2L2) presented in Emergency with 2-3 episodes of seizures. She was post caesarean section. Patient was in drowsy and disoriented state. BP-160/90mm Hg, pallor and oedema feet present. Neuroimaging was done which showed. CT (BRAIN): hypodense area in bilateral occipital lobes, which was subcortical in origin (b) MRI BRAIN(PLAIN)T1 hypodensity and T2 flair hyper intensity signals involving cortical sulci, gyri of bilateral frontal lobes, occipital lobes, left temporal lobes and bilateral caudate nucleus and vasogenic oedema. MRI (venogram):normal. Patient was started on antiepileptics, antibiotics and osmotic diuretics. Improved over a period of 8 days and was discharged on antiepileptic.

Conclusion: Posterior reversible encephalopathy syndrome should be considered in patients with seizures, altered consciousness, visual disturbances, headache particularly with chronic and acute kidney disease, organ transplantation, and use of immunosuppression. If recognised and treated promptly the rapid onset symptoms and radiological features resolve within days to weeks.

Keywords: 1. Posterior Reversible Encephalopathy Syndrome 2 Seizures. 3. Antiepileptics 4. Vasogenic Oedema .

Background

Posterior reversible encephalopathy syndrome or reversible posterior leukoencephalopathy syndrome presents with headache, seizures, altered consciousness and visual disturbances associated with conditions like acute hypertension, vascular and autoimmune disease, immunosuppressant drugs and organ transplantation.

Case Report

28 years, lady, Mrs. Sushila Chilap came to MGM hospital with complain of pain in abdomen since 7-8 hours. She was G3P2L2 with 35 weeks gestation, an unregistered, unimmunized case. On general examination she was well-oriented to time, place and person, pulse was 90/min, B.P- 170/110mmhg. On her abdomen examination,

uterus was full term size with FHS of 10 beats per minute. On vaginal examination she was found to be in the latent phase of labor with a poor bishop score. A urine dipstick test was done wherein urine protein was +4. A decision for a Caesarian section was taken. Tablet labetalol 200mg was given orally and Inj.MgSO₄ 14mg was given according to Pritchard's regime prophylactically. Patient was induced with spinal anesthesia for the surgery her intra-operative BP was 150/90mm of Hg. The baby was delivered who did not cry after birth and was admitted in the NICU. Patient had an episode of convulsions while abdomen closure was being done, for which she was given an Injection Lorazepam 2cc I.V stat. She was stabilized and shifted to the ward. Inj MgSO₄ maintenance dose was continued and B.P was maintained at 150/90mmhg with antihypertensive (Inj labetalol). After 4-5 hours she had two episodes of seizures within 15 minutes. Her B.P was 160/100mm of Hg. Inj MgSO₄ 14 mg was repeated as per Pritchard's regime and the patient was shifted in MICU (Medical ICU).

On examination in MICU: patient was drowsy and disoriented (post ictal state). General condition was poor. Pulse-140/min, regular, normal volume, tension, all peripheral pulses present, no radioradial, radiofemoral delay. Blood

pressure-160/90 mm of Hg recorded in right arm supine position. Respiratory Rate-24/min, thoracoabdominal. Pallor present, oedema feet present, no icterus, cynosis, clubbing. Systemic examination: Nervous system: Higher function couldn't be tested as patient drowsy disoriented. Speech, gait-couldn't be elicited. Cranial nerves: within normal limits. Motor system-cannot be elicited, sensory system-cannot be elicited. Reflexes-both superficial and deep were present. Plantars- bilaterally mute. Cardiovascular system-within normal limits. Respiratory system-within normal limits:

Treatment in MICU: Inj MgSO₄ maintenance dose (5 mg 4 hourly in alternate buttocks) was continued for 24 hours, anti-biotics (Inj ceftriaxone 1gm iv BD, Inj metronidazole 500mg TDS), antiemetic's, anti epileptic (Inj. Levetiracetam 500mg i.v TDS), osmotic diuretic (Inj Mannitol 50 mg TDS), antihypertensive (inj labetalol 10 mg i.v tds) and I.V fluids were given. Neurology reference was taken a CT(brain) was advised along with MRI(BRAIN) with MRI(VENOGRAM)

Blood Investigations: showed anemia with decreased platelet count with increased AST AND ALT (liver enzymes) with normal coagulation profile. Leucocytosis resolved with antibiotics

ICU DAY	Hb (gm%)	TLC (cumm)	PLT (cumm)	T.Bili (mg/dl)	D.Bili (mg/dl)	SGOT (mg/dl)	SGPT (mg/dl)	Alk . Po4 (mg/dl)	Total Protein (mg/dl)	Urea ^c (mg/dl)	S.Creat ^c (mg/dl)	Uric Acid (mg/dl)	PT	INR	Na (mEq/l)	K (mEq/l)
DAY 1	9.9	11.600	0.54	0.48	0.37	26.7	57.9	213	6.6	15.9	.8	4.1	14	1	137.2	3.9
DAY 2	10.3	14,800	0.56	1.60	0.45	1123	338	268	5.1	33	.77	8.6	13.5	1	137	4.2
DAY 3	7.9	13240	0.55	1.52	0.13	1122	405	284	5.14	51	.73	9.9	13.2	1.2	134	4.3
DAY 4	7.2	14750	0.44	0.64	0.20	736	352	168	4.13	66	.56	8.3	14	1	137	3.9
DAY	6.4	16160	.80			110	140	140	4.7	42	.5		13.9	1	138	3.9
DAY	9.9	11900	2.01	0.74	0.50	57.9	18.3	271	5.8	16.7	1		14	1	136	

- CT(BRAIN): hypodense area in bilateral occipital lobes, which was sub cortical in origin (b)MRI BRAIN (PLAIN) T1 hypo density and T2 flair hyper intensity signals involving cortical sulci, gyri of bilateral frontal lobes, occipital lobes, left temporal lobes and bilateral caudate nucleus and vasogenic oedema. MRI (venogram): normal.

- Treatment and course of stay in hospital: When presented to emergency she was drowsy and disoriented .she stayed in intensive care unit for 4 days where she received treatment in form of tablets, intravenous injections and intravenous fluids .Conscious level improved over 2 days with responding to verbal commands. Later on she was shifted towards on intravenous

antiepileptics, antibiotics. She was discharged on antiepileptic after 7 days.

Differential Diagnosis

- (1) Pregnancy induced hypertension
- (2) Venous sinus thrombosis. (A) Unenhanced computed tomography shows posterior temporal parenchymal hemorrhage and a hyperdense left transverse sinus. (B) FLAIR (fluid attenuated inversion recovery) imaging shows high signal in the area of hemorrhage,
- (3) Herpes simplex encephalitis. (A) In this case, FLAIR (fluid attenuated inversion recovery) imaging shows high signal in the left insular cortex, posterior temporal lobe, cingulate gyrus, and caudate nucleus. Findings are usually bilateral.
- (4) Basilar artery thrombosis. (A) Unenhanced computed tomography demonstrates a hyperdense basilar artery indicating acute thrombus. The diffusion weighted imaging shows bilateral posterior circulation infarcts

Discussion

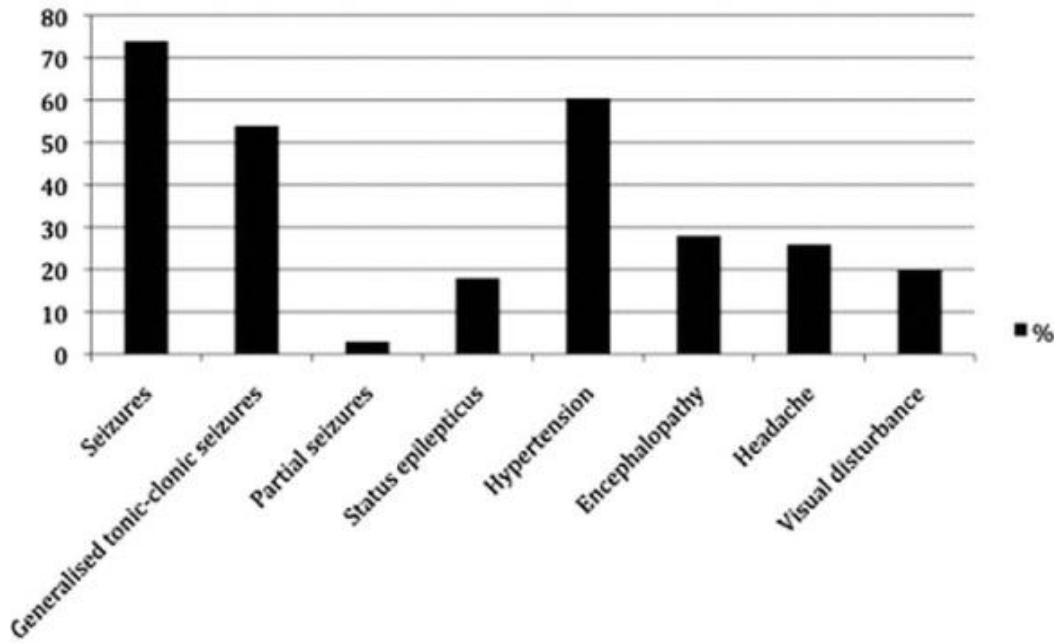
Pathophysiology: Uncontrolled hypertension leads to hyper perfusion and cerebral vessel damage, resulting in interstitial extravasations of proteins and fluids, causing vasogenic oedema. **Neuroimaging:** Typical findings are bilateral white matter abnormalities in watershed areas in posterior regions of both cerebral hemispheres affecting mostly occipital and parietal lobes with vasogenic oedema.

No clinical trials have evaluated the management of this syndrome, withdrawal of the trigger factor can hasten recovery and avoid complications

- (2) Antiepileptic drugs to treat seizures, anaesthesia and ventilation to be instituted in generalised status epilepticus and to protect airway.
- (3) Corticosteroids can improve vasogenic oedema but there is no evidence have been found



MRI Imaging Showing: Bilateral occipital Infarcts with Vasogenic Oedema



Graph Showing Symptoms Percentage in Posterior Reversible Encephalopathy Syndrome

Conclusion

Posterior reversible encephalopathy syndrome should be considered in patients with seizures, altered consciousness, visual disturbances, headache particularly with chronic and acute kidney disease, organ transplantation, and use of immunosuppression. If recognised and treated promptly the rapid onset symptoms and radiological features resolve within days to weeks

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