

Posterior Reversible Encephalopathy Syndrome: Its Clinical Outcome

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Abstract

Background: It is one of the unusual cause of Ischemic Stroke . Severe HTN , eclampsia , sympathomimetic drugs and autoimmune condition like SLE are major causative factors . **Objective :** To identify clinical outcome associated with Posterior Reversible Encephalopathy Syndrome . **Material And Methods :** The study was done on 3 patient who came with complain of altered sensorium and admitted in Rims Ranchi , in the study period of 6 months . Clinical study and investigations were analyzed . **Result :** 2 patients had blood pressure more than 190/110 mmHg and 1 patient diagnosed with SLE . All 3 patients were discharged and followed up . **Conclusion :** It has good prognosis if causative factors are identified and promptly treated .

Key Words: PRES , SLE , Malignant Hypertension , Prognosis

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I. Introduction

The Posterior Reversible Encephalopathy Syndrome (PRES) was first identified in 1996 by Hinchey et al^[1] . It is characterized by headache , confusion , coma , visual disturbance and even psychosis . It can occur with head injury , seizure , migraine , sympathomimetics drugs like cocaine / amphetamine , eclampsia , malignant hypertension , autoimmune condition like SLE and in the postpartum period . The MRI findings are characterized with occipital lobe edema but it do not respect any vascular territory .^[2] It is advised to do CSF Analysis to rule out meningeal inflammatory diseases and SAH .

Pathophysiology

Most accepted theories are hyperperfusion state , segmental vasoconstriction and cerebral edema . Microscopically there are widespread small infarct in the brain , the result of fibrinoid necrosis and capillaries and occlusion of their lumen by fibrin thrombi . The brain edema is the result of exocytosis of water . In toxemia or eclampsia , rising levels of the antiangiogenic proteins endoglin , vascular endothelial factor , and placental growth factor had played important role in pathophysiology .^[3] And in the autoimmune disorder , endothelial cells become activated and damaged by an inflammatory cytokines response stemming from monocytes and lymphocytes , which can lead to leakage of fluid and proteins into interstitium .^[4]

Investigation

Blood Report :
CBC , ESR , ANA Profile , CSF Analysis
Radio - Diagnostic :
MRI Brain

Treatment

Before MRI Radiology Era , there were no treatment available and outcome was often fatal . Identification of causative factors in appropriate time and prompt treatment are the only key factors can save patients . Malignant hypertension is treated by antihypertension agents . Safe targeted blood pressure is 150/100 mmHg or 20 % reduction in mean pressure . Other drugs that can be used are I . v nitroprusside and Calcium channel blocker like nifedipine . Systemic Lupus Erythematosus induced PRES can be treat with steroid and Immunomodulators . The eclampsia is treated with MgSO₄ .

II. Material And Methods

Study Population Source Of Data

The study was conducted on 3 consecutive patients admitted to Rajendra Institute of Medical Sciences, Ranchi during the study period.

Inclusion Criteria

PRES patients are diagnosed by : clinical history - Malignant hypertension / Autoimmune Disorder / Eclampsia / Head injury/

Drugs
Blood Analysis
CSF Analysis
MRI Brain

Exclusion Criteria

Patients with :

1. Diabetes
2. Previous Heart Illness
3. Lung Pathology
4. Sepsis

Investigation

1. Complete Blood Count
2. ANA Profile
3. CSF Finding
4. MRI Brain

Design Of Study

Observational And Hospital Based Prospective Study.

Period Of Study

Six Months study (1st November to 31st April)

Collaborating Department

Department of Radiology
Department of pathology

Consent : Individual / care takers written and informed consent

Analysis : Statistical Analysis was performed using appropriate tests as required according to data.

Conflict Of Interest : Nil

Financial Support: Self

Participants: 3 PRES Patients admitted in Medicine ward at Rajendra Institute of Medical Sciences, Ranchi

III. Observation And Result

Table 1

SR No	Age/Sex	Altered Sensorium	B . P mmHg	ANA profile	Drugs H/O	Cortical Blindness	Outcome
1	55yr/M	+	220/130	-	-	+	Discharge
2	50yr/M	+	200/120	-	-	-	Discharged
3	30yr/F	+	140/90	+	-	-	Discharged

Comments : . Two patients are Male , of age 55 years and 50 years and one is Female of age 30 years . All 3 Patients had complain of Altered sensorium . Two patients had blood pressure > 190 /110 mmHg and one of them had visual disturbance . One patient was

diagnosed with SLE through ANA profile . All three patients were discharged .

IV. Discussion

All three patients admitted in Rims Ranchi had similar complain of altered sensorium . The 1st patient had high blood pressure I.e > 200/110 mmHg and visual disturbance . 2nd patient also had high blood pressure but had no features of cortical blindness and autoimmune disease . The 3rd patient had normal blood pressure but diagnosed with SLE . All patients were treated well and discharged .

V. Conclusion

It is uncommon small vessel stroke , characterized by altered sensorium and visual disturbance . Our clinical series of PRES patients is the high prevalence of Malignant hypertension > Autoimmune Disorder . This study focuses on prompt investigation and treatment for better prognosis .

Abbreviation

1. PRES - Posterior reversible encephalopathy syndrome
2. HTN - Hypertension
3. SLE - Systemic lupus erythematosus
4. MRI - Magnetic resonance imaging
5. CSF - Cerebrospinal fluid
6. ANA - Antinuclear Antibody
7. B. P - Blood pressure
8. CBC - Complete blood count

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