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A CASE OF POSTERIOR REVERSIBLE ENCEPHALOPATHY SYNDROME

General Medicine

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ABSTRACT

A clinicoradiological syndrome which comprises of headache, seizures, altered mental status and visual loss is known as the Posterior Reversible Encephalopathy Syndrome (PRES). Usually this syndrome is characterized by vasogenic edema in the posterior occipital and parietal lobes of the brain. Here I present a case of PRES which had all the characteristics of the disease and can be recognised by a high degree of suspicion.

KEYWORDS

INTRODUCTION:-

PRES is also known as –
-Reversible posterior leukoencephalopathy syndrome
- Reversible posterior cerebral edema syndrome
- Reversible occipital parietal encephalopathy

PRES is the more accepted term for this syndrome. It is usually associated with acute hypertension. The various PRES associated conditions include-

Pre-eclampsia
Eclampsia
Infection/sepsis/shock
Autoimmune disease
Cancer chemotherapy
Hypertension
Bone marrow transplantation
Stem cell therapy.1

The patients may present with seizures, altered sensorium. Some patients may present with stereotypic movements like staring, head turning or eye blinking. There may be post-ictal confusion. The name given to this condition is based upon the lesion appearing on radiological investigation in the parieto-occipital lobe i.e. the posterior location of the lesion. The various mechanisms involved in the causation of the PRES include-

1. Vasogenic edema
2. Cerebral vasoconstriction causing infarcts in the brain
3. Endothelial damage with fluid and proteins transudation in the brain.2

CASE REPORT:-

A 58 years old female patient presented to the emergency with chief complaints of-

PC- Severe headache for the past 4 days
Altered sensorium for the past 4 days
Vomiting for the past 4 days
Difficulty in seeing for the past 4 days

In the history of present illness, the patient was alright 4 days back when she started experiencing severe headache which was localized to the occipital region of the head. It was severe and persistent headache.

There was no history of loss of consciousness.
There was no history of seizures.
There was no history of fever.
There was no history of trauma.

The patient also had complains of altered sensorium for the past 4 days. There was history of irrelevant talking which started 4 days back and also the patient appears to be drowsy.

The patient also had vomiting for the past 4 days which appeared to be projectile in nature.

The patient had history of difficulty in seeing for the past 4 days. She felt blurring of vision and inability to recognize the objects in the visual fields.

There was no history of involuntary movements.
There was no history of incontinence of urine.
There was no history of any sensory symptoms.
There was no history of any motor weakness.

In the past history, there was no history of Diabetes Mellitus, TB, CAD. The patient was an old case of Hypertension and was on treatment.

In the family history, there was nothing significant.

In the personal history, the patient was a vegetarian in diet. She was non-smoker and non-alcoholic. Bowel and bladder was normal. Sleep of the patient was sound.

On socioeconomic history, the patient belonged to the middle class family.

In the menstrual history, the patient had attained menopause at the age of 45 years.

On General Physical Examination, the patient was conscious, not responding to the verbal commands and was irritable. Patient was afebrile, the pulse rate was 100/ min, regular, good volume, normal character, no radiofemoral delay, condition of the vessel wall was normal, equal both the sides, all peripheral pulses were well felt. The BP was 160/110 mm Hg in the right arm supine position. The respiratory rate was 18/min, thoracoabdominal type. There was no pallor, icterus, cyanosis, clubbing, lymphadenopathy, edema. The JVP was not raised.

On CNS examination, the patient was conscious, irritable, not following the verbal commands. The speech could not be tested. Patient had involvement of the second cranial nerve and had impairment in the visual aquity and could not recognize things. Vision was reduced to finger counting. Other cranial nerves were normal. There was no Papilledema. The field of vision was normal. The motor system examination was normal but the coordination could not be tested. The reflexes- deep tendon and superficial were normal. The sensory system examination was normal. There was no neck stiffness. Other system examination was normal.

A provisional diagnosis of Accelerated Hypertension with Encephalopathy was kept.

On investigation-

Hb- 12.3 gm%, MCV- 83.9 fl, TLC- 7,430/mm3, ABG was normal, RBS- 108 mg%, Blood Urea- 52 mg%, Sr Creatinine- 0.4 mg%, Sr AST/ALT- 50/20 U/l, Sr Alkaline Phosphatase- 93 U/l, Sr Sodium- 135 mEq/lt, Sr Potassium- 4.7 mEq/lt, Urine routine- normal, Chest X-ray- normal, ECG- showed e/o LVH, LAA.

MRI Brain- showed e/o partial asymmetric expression of posterior reversible encephalopathy syndrome.

A final diagnosis of Hypertension with Posterior Reversible

Encephalopathy Syndrome was thus made.

Treatment was started in the form of Inj Mannitol, Inj Phenytoin, Inj Amoxyclav, Inj Pantoprazole, Inj Ondansetron, Tab Amlodipine, Tab B-complex, IV Fluids.

The patient improved with treatment as the BP was brought to normal levels. The headache improved, patient became fully conscious, started to respond to verbal commands and vomiting stopped. The patient was later discharged in a stable condition.

DISCUSSION-

The PRES has various imaging patterns which include-

- Holohemispheric watershed
- Superior frontal sulcus
- Dominant parietal/occipital
- Partial &/or asymmetric PRES.3

The normal treatment modalities include- withdrawl of the offending agent/drug, immediate control of BP, anti-convulsive therapy, and treatment of associated autoimmune diseases like SLE, etc. PRES has also been reported to be associated with blood transfusion, which may cause cerebral blood flow overload.

PRES may be complicated by ICH, but is rare. The majority of patients recover fully but some may experience some residual symptoms. The brain edema tends to be more severe in those without abnormal elevation of BP.

Diagnosis is usually by CT Brain, MRI Brain.

Treatment is by ICU admission in 40% cases.

With adequate treatment, 70-90% of patients make full recovery within hours to days.

About 8-17% patients die due to ICH. Majority of the patients eventually are able to discontinue anticonvulsant treatment. The condition was first recognized in 1996.4

CONCLUSION-

This case illustrates the fact that in such presentations of CNS abnormality in patients, a high index of suspicion should be kept for PRES and the further investigations usually show the characteristic abnormalities in the Brain on imaging.

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