ORIGINAL RESEARCH PAPER
Volume - 12 | Issue - 05 | May - 2023 | PRINT ISSN No. 2277 - 8179 | DOI : 10.36106/ijsr
INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

A RARE CASE PRESENTATION:POSTERIOR REVERSIBLE ENCEPHALOPATHY SYNDROME IN CASE OF VIPER BITE.

General Medicine

Dr. Swapnil Kharat Junior resident, Department of General Medicine, Government medical college and hospital, Aurangabad.

Dr. Pravin Patil Junior resident, Department of General Medicine, Government medical college and hospital, Aurangabad.

Dr. Sitaram Sabne Assistant professor, Department of General Medicine ,Government medical college and hospital, Aurangabad.

Dr. Meeakshi Bhattacharya Professor and Head of department, Department of General Medicine, Government medical college and hospital, Aurangabad.

ABSTRACT

Posterior reversible encephalopathy syndrome is a rare disorder characterized by radiological changes along with following clinical features. A headache, seizures, altered mental status, and vision loss are all symptoms of the clinico-radiological syndrome known as posterior reversible encephalopathy syndrome (PRES), which is primarily caused by white matter vasogenic edema that affects the posterior occipital and parietal lobes of the brain.[1]

KEYWORDS

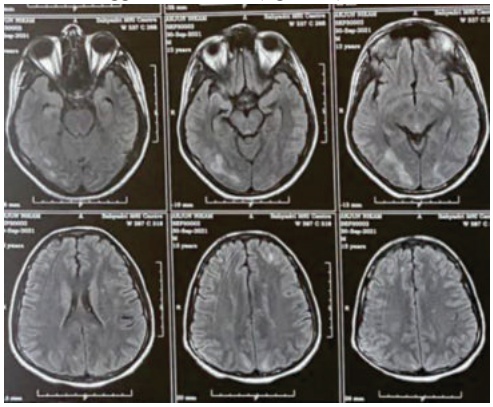
PRES, Snake bite

INTRODUCTION:

Snake bite cases can present with either vascuotoxicmanifestation, neurological complication or musculotoxic complications or rarely combined[2]. Neurological complications of snake bite documented are neuromuscular paralysis leading to respiratory paralysis, which is common cause of mortality[3]. Vasculotoic snake bite presents with local swelling, bleeding tendencies (coagulopathy) like hematuria, GI bleed or intracranial bleed, DIC and sepsis[4]. Very few cases of PRES secondary to snake bite have been documented in literature[5,6]. Posteriorreversible encephalopathy syndrome (PRES) is a clinico-radiological syndrome characterized by a headache, seizures, altered mental status and visual loss. Pathophysiology of PRES is uncertain but likely involves a hyperperfusion state where blood pressure exceeds the upper limit of cerebral autoregulation leading to cerebral edema. Common causes of PRES are seizure, head injury, migraine, eclampsia, post partum period and sympathomimetic drug use.[7]

CASE:

16 year old male brought to hospital with history of viper bite to left lower limb below medial malleolus with complains of altered sensorium, local swelling at bite site and hematuria. On admission patient was irritable and altered, pulse rate 115/min, blood pressure-116/80mmhg, Respiratory rate 17 per min. Patient was intubated in view of impending respiratory failure and taken on ventilatory support. Patient was given Anti snake Venom (ASV) , Fresh Frozen Plasma and supportive measures. Patient's Non contrast CT(NCCT) of brain was done to rule out Intra Cranial bleed as it is one of the documented complication of vasculotoxic snake bite. Patients NCCT brain was within normal limit. Patients MRI brain was done, which reported bilateral occipital, parietal and splenium of corpus callosum T2 FLAIR hyperintensities suggestive of PRES(figure 01).



(Figure 01)

Patient was given Injection Mannitol and Dexamethasone as antiedema measures for 7 days. Patient was extubated after 7 days and discharged after 35 days of hospital stay. On discharge patient was conscious, not obeying commands, moving all 4 limbs and vitally stable. After followup of 1.5 months after discharge patient was conscious oriented , obeying commands with no focal neurodeficit.

DISCUSSION:

The diverse set of disorders known as leucoencephalopathies are defined by white matter degeneration or aberrant development.[8]It could be a genetic disorder or acquired vascular, inflammatory, infectious, traumatic, toxic, nutritional, neoplastic, etc. abnormalities. PRES is a reversible leucoencephalopathy and the other names of this condition are Reversible Posterior Leucoencephalopathy Syndrome, hyper-perfusion encephalopathy and brain capillary leak syndrome. The PRES is a clinico-radiological syndrome characterized by the white matter edema affecting predominantly the vascular watershed areas of the posterior occipital and parietal lobe .If the insult is recognized promptly and the triggering factor is withdrawn, clinical syndrome resolves within a week.[9] Since hypertension is frequently associated with PRES, about 30% of individuals have normal blood pressure.[10]MRI pictures are diagnostic, whereas computerised tomography images could be normal.

Drowsiness, confusion, dizziness, blurred vision, loss of motor coordination, convulsions, and other neurological symptoms and signs following a viper bite are also common[11]. Intracranial haemorrhage is the most typical neurological symptom in snakes with vasculotoxic venom. Acute Disseminated Encephalomyelopathy (ADEM) and ischemic strokes of various artery areas have also been documented. This child's altered sensorium after being bitten by a snake may have been caused by the venom's direct damage to the artery endothelial cells. Proteins, peptides, biogenic amines, lipids, and polysaccharides are complex compounds found in venom that have cytotoxic, neurotoxic, anticoagulant, and procoagulant properties. Metalloproteinases and C-type lectin, two highly specific venom components, activate platelets to produce pro-inflammatory activity, or thrombo-inflammation.[12] Moreover, they activate platelet adhesion receptors' natural ligands.Increased vascular permeability brought on by the venom results in aberrant release of cytokines and tumour necrosis factors, which in turn leads to systemic endothelial dysfunction. The PRES in this patient is explained by endothelial dysfunction.A side effect of anti-venom therapy could be PRES. This is less likely in this child, though, as the clinical symptoms began even before taking anti-snake venom.

CONCLUSION:

Patients with snake bite though rare but the development of PRES should be recognized promptly and has to be differentiated from venom induced neurological manifestations. The characteristic MRI

findings and a spontaneous resolution favors a diagnosis of PRES. Whereas a presentation with ptosis or external opthalmoplegia should favor the diagnosis of neurotoxic envenomation.

REFERENCES:

1- Shreenivasrao et al- Posterior reversible encephalopathy syndrome(PRES) (2017)
2- Stephen Meyers- Snake Toxicity (2021)
3- Krishna sarin et al- Clinical profile & complications of neurotoxic snake bite & comparison of two regimens of polyvalent anti-snake venom in its treatment.(2017)
4- S R Mehta et -Clinical Features And Management Of Snake Bite(2011)
5- Ahmed Mustafa Ibrahim et al- Horned viper bite with PRES (2017)
6- Miguel E. Delgado et al-Reversible Posterior Leukoencephalopathy in a Venomous Snake (*Bothropsasper*) Bite Victim (2012)
7- Harrison 21stedition,chapter no 427, page no 3343
8- Yuskaitis CJ, Pomeroy SL. Development of the Nervous System. Fetal and Neonatal Physiology.(2017)
9- Roth C, Ferbert A. The posterior reversible encephalopathy syndrome: what's certain, what's new? Practical Neurology.(2011); 11: 136–144
10- Gokce M, Dogan E, Nacitarhan S, Demirpolat G. Posterior Reversible Encephalopathy Syndrome Caused by Hypertensive Encephalopathy and Acute Uremia. Neurocritical Care. 2006; 4: 133–136.
11- Pandit V, Valsalan R, Gouda S, Seshadri S, Vikas M. Posterior circulation ischemic stroke following Russell′s viper envenomation. Annals of Indian Academy of Neurology . (2011) 14: 301.
12- Teixeira C, Fernandes CM, Leiguez E, Chudzinski-Tavassi AM. Inflammation Induced by Platelet-Activating Viperid Snake Venoms: Perspectives on Thromboinflammation. Frontiers in Immunology.(2019)