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RESEARCH ARTICLE

POSTERIOR REVERSIBLE ENCEPHALOPATHY SYNDROME IN A POSTPARTUM NORMOTENSIVE POST CESAREAN PATIENT - A CASE REPORT

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Abstract

Posterior reversible encephalopathy syndrome { PRES } is a reversible neurological entity characterised by seizures , headaches , visual symptoms , impaired consciousness and other focal neurological findings . There are a variety of causes behind this syndrome but eclampsia takes the lead and preeclampsia also significantly contributes . We present here a case of young postpartum woman with atypical findings and imaging results leading to diagnosis of PRES .

Introduction:-

Case Report:

A second gravidapatient , term pregnancy with previous caesarean section with scar tenderness and fetal heart rate abnormalities underwent caesarean section .Her pregnancy course was uneventful throughout the term and she had regular antenatal visits , blood pressure examinations , normal blood and urine routine investigations , obstetrical ultrasounds . She visited our clinic on her 7th postoperative day for stitches removal and checkup which was normal . The following day, at her home she experienced one episode of generalised tonic clonic convulsion and went in post ictal phase , was brought in emergency room with pulse rate of 162 per min. and B.P of 120/90 mm of Hg , and oxygen saturation of 85% following which she was intubated and started on magnesium sulfate and other anticonvulsants , antihypertensives . Her blood and urine investigations , MRI was performed . MRI revealed hyperintense areas along cerebellar hemispheres and bilateral occipital lobes and MRVenogram showed normal caliber signal intensities through brain sinuses .Her cerebrospinal fluid investigations also revealed an increased protein levels of 67mg % and presence of mononuclear cells . She gradually improvised and was extubated , had a full recovery .

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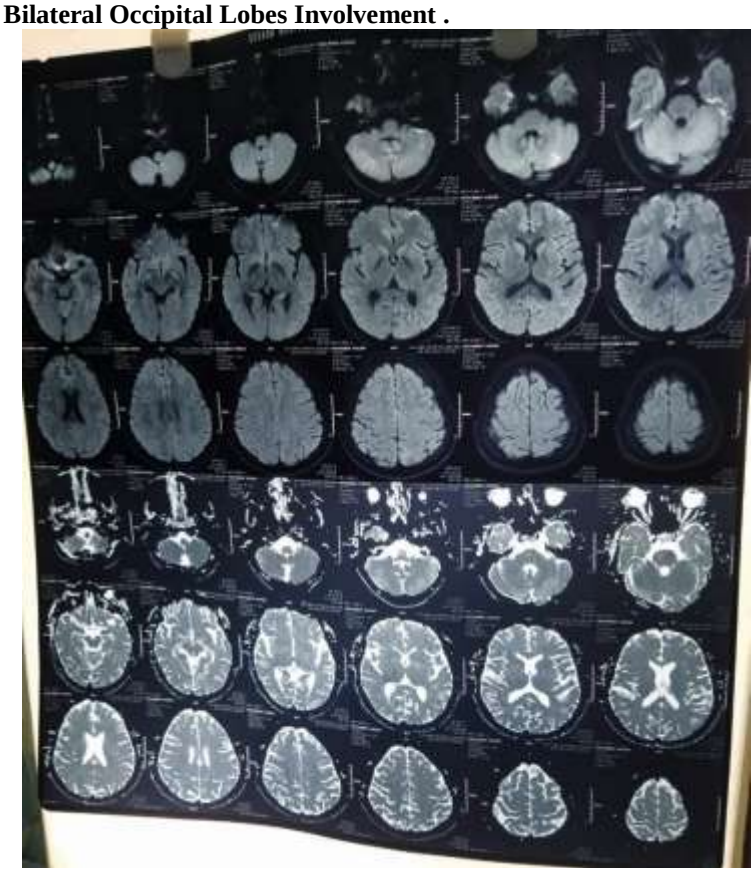
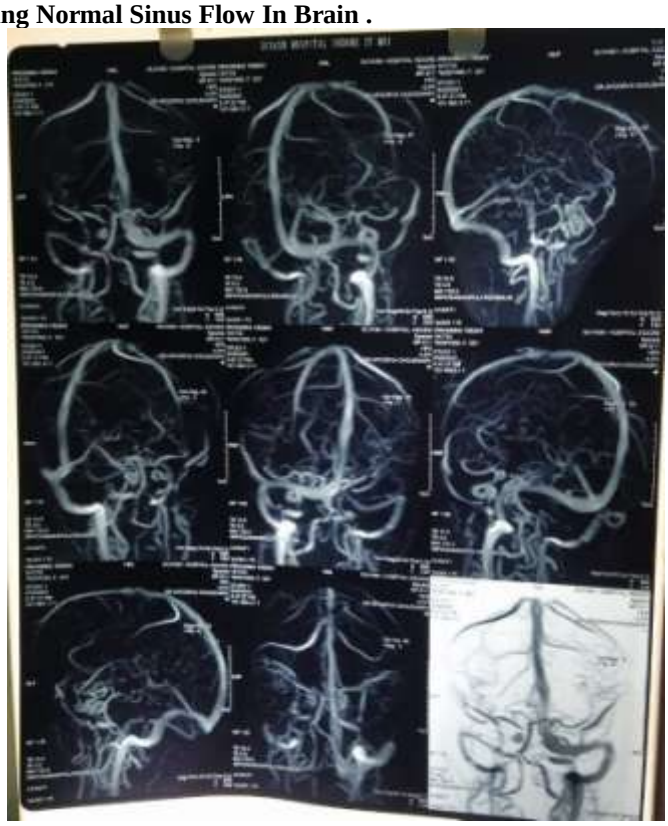
Mri image depicting hyperintense patchy areas of cerebellar areas .

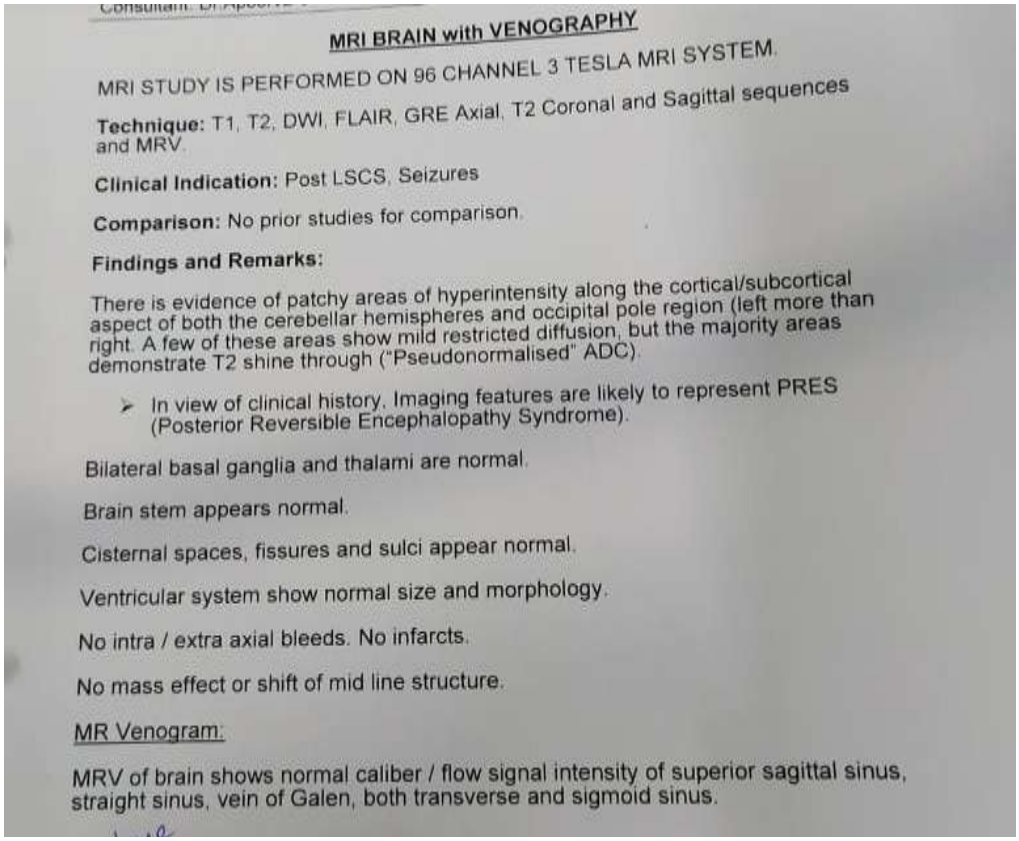
Mri Images Showing Bilateral Occipital Lobes Involvement .



Mr Venogram Demarcating Normal Sinus Flow In Brain .



Mri Report Of The Same .



MRI BRAIN with VENOGRAPHY

MRI STUDY IS PERFORMED ON 96 CHANNEL 3 TESLA MRI SYSTEM.

Technique: T1, T2, DWI, FLAIR, GRE Axial, T2 Coronal and Sagittal sequences and MRV.

Clinical Indication: Post LSCS, Seizures

Comparison: No prior studies for comparison.

Findings and Remarks:

There is evidence of patchy areas of hyperintensity along the cortical/subcortical aspect of both the cerebellar hemispheres and occipital pole region (left more than right. A few of these areas show mild restricted diffusion, but the majority areas demonstrate T2 shine through ("Pseudonormalised" ADC).

- In view of clinical history, Imaging features are likely to represent PRES (Posterior Reversible Encephalopathy Syndrome).

Bilateral basal ganglia and thalami are normal.

Brain stem appears normal.

Cisternal spaces, fissures and sulci appear normal.

Ventricular system show normal size and morphology.

No intra / extra axial bleeds. No infarcts.

No mass effect or shift of mid line structure.

MR Venogram:

MRV of brain shows normal caliber / flow signal intensity of superior sagittal sinus, straight sinus, vein of Galen, both transverse and sigmoid sinus.

Discussion:-

A pregnant woman presenting with hypertension and blindness at term constitutes a diagnostic dilemma. The possibilities that must be kept in mind include cerebrovascular hemorrhage , eclampsia, and clinical syndromes like PRES. Hypertensive retinopathy, exudative retinal detachment, and cortical blindness are three common visual complications of preeclampsia and eclampsia. Currently, blindness in severe preeclampsia is more likely to be associated with cortical aetiology . Visual abnormalities that accompany PRES include hemianopsia, visual neglect, auras, visual hallucinations, and cortical blindness. The visual loss is usually regained within a period of 4 hours to 8 days after treatment .

The pathophysiological mechanism underlying PRES is still vague. It may be related to disordered cerebral autoregulation and endothelial dysfunction. The combination of acute hypertension and endothelial damage can lead to vasogenic edema elicited by the forced leakage of serum through capillary walls and into the brain interstitium . The reason for the primary involvement of posterior brain regions is not well understood. One possibility may be the regional heterogeneity of the sympathetic innervation of the intracranial arterioles. This is explained by better autoregulation of the anterior circulation due to better sympathetic innervations as compared to the posterior circulation . Acute hypertension can lead to hyperperfusion and edema in the posterior circulation in PRES.

Conclusion:-

Various clinical and pathological , neuroimaging have led to theories to explain cerebral abnormalities with eclampsia . These include cerebral overregulation and sudden increase in mean arterial pressure resulting in vasogenic cerebral edema . PRES usually involves posterior brain i.ethe occipital and parietal cortices but also can involve other areas . Although symptoms are usually fully reversible still a large number of cases also land in permanent neurological impairment .

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