VOLUME - 13, ISSUE - 11, NOVEMBER - 2024 • PRINT ISSN No. 2277 - 8160 • DOI : 10.36106/gjra

Original Research Paper | Pharmaceutical Science

PREGNANCY-INDUCED HYPERTENSION AND PREECLAMPSIA:

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ABSTRACT

Preeclampsia has been recognized for at least 100 years.Eclampsia is the convulsive manifestation of preeclampsia. It is new onset of seizures or coma in a pregnant woman with preeclampsia. These seizures are not related to an existing brain condition. Most women with preeclampsia do not go on to have seizures. It is hard to predict which women will. Women at high risk of seizures often have severe preeclampsia with findings such as: Headaches, high blood pressure, Vision changes, Abdominal pain. Eclamptic seizures can happen prior to delivery, 20 weeks following conception, during delivery, and after delivery. In this case report, the patient with 32 weeks of gestation, was associated with complaints such as - cold and cough, chest discomfort, headache, giddiness, nausea and vomiting. Later the patient went into hypertensive emergency and then developed seizures which lead to intrauterine fetal demise. The biochemical investigations show significant decreased Hemoglobin levels (7.0g/dl) and Total leukocyte count about (7,900 cubic millimeter), INR (1.2), Prothrombin time (14 seconds). This case study provides information on how patient condition was progressed from preeclampsia to eclampsia and how the patient was managed.

KEYWORDS : Tonic-clonic seizures, Chronic Hypertension, Eclampsia.

INTRODUCTION:-

Eclampsia refers to the occurrence of new-onset, generalised, tonic-clonic seizures or coma in a patient with preeclampsia (including HELLP syndrome [hemolysis, elevated liver enzymes, low platelets] or gestational hypertension (in those cases where, in retrospective, it was a temporary [provisional] diagnosis for a hypertensive pregnant patient who went on to meet criteria for preeclampsia or eclampsia). Risk factors that predispose to eclampsia includes- First pregnancy, Past history of preeclampsia, Multiple pregnancies, Family history of preeclampsia, Chronic hypertension greater than 160/110, Obesity, DM, Hypertension or kidney disease, History of thyroid disease, Being older than age. The patients show symptoms such as Seizures, Severe agitation, Unconsciousness and most women will have these symptoms of preeclampsia before seizures like Headache, Nausea and vomiting, Visual abnormalities- temporary blindness, seeing flashing or spots, sensitivity to light and blurry vision, Protenuria and associated with central nervous system disturbances-confusion, Swelling of hands and face. Diagnosis can be based on symptoms - seizures, Blood tests (low platelet count, RBC), Protein in urine. Treatment is usually with IV Magnesium sulfate and delivery at term or earlier for maternal or fetal complications. Also other supportive medications like antihypertensive like Labetalol, other anticonvulsants like Diazepam can be given.

Epidemiology:- According to WHO estimation, eclampsia is the cause of 12 % of all maternal death globally. In 2015, approximately 42,000 women died as a result of hypertensive disorders of pregnancy over worldwide .In India, reported incidence rate of eclampsia varies from 0.179 to 3.7 % And maternal mortality rate varies from 2.2 to 23 % of all eclamptic women.

Case Study:-

A 29 years old female patient presented to other medical facilities with complaints of cold and cough since 1week, chest discomfort, giddiness and nausea feeling. In this hospital, 2DEcho was done which showed- Large PDA with bidirectional shunt to the fetus. Then she was brought to another medical hospital with Gestation history- G3A2/32 weeks 2 days/ which was induced through OI conception and with complaints of severe headache since 3 days associated with vomiting. Her Blood Pressure was recorded to be 180/100mmHg, which was managed with antihypertensive medication- Labetalol bolus followed by infusion. Necessary investigations were done. Later patient developed 3 episodes of seizures, immediately treated with IV Midazolam, IV Magnesium sulphate and labetalol infusion and also Nifedipine PO was given. There she was diagnosed with Eclampsia.

After this, the patient was intubated and in view of severe respiratory distress while shifting as her ejection fraction was about 48% and brought to Emergency ward to another hospital (Apollo hospital)). Patient had S/P spontaneous abortion MTP in 2020 and past medical history of GTCS in January 2022, which was not evaluated further. Emergency evaluation done, she was put on ventilator support, ET tube and IV fluid normal saline @20ml/hr was infused. Blood investigations done, which showed altered parameters and emergency 2DEcho repeated and ECG was done. Diagnosis confirmed to be Eclampsia with LV dysfunction, Intrauterine fetal demise confirmed, Peripartum cardiomyopathy. Later she developed ventilator associated pneumonia and Catheter associated Urinary tract infection for

Table:-Bio-chemical parameters. s

Parameters	Upon admission	Post admission	Reference range
Haemoglobin	7.0	11.6	12-15g/dl
TLC count	7900	20,600	4.0-11.0.103/mm3
Platelet count	195	263	150-410.103/mm3
Serum.Urea	23	39	15-45 mg/dl
Serum.creatinine	0.8	0.7	0.55-1.02 mg/dl
ALP	146		44-147 IU/L
APTT	28.1	27.6	28-40 sec
PT	14.0	17.1	11-14sec
INR	1.2	1.33	2-4
Sodium	139	144	135-145mmol/L
Potassium	4.2	4.3	3.5-4.5mmol/L
Chloride	103	108	98-107mmol/L
MCV		79.1	83-101fI
MCH		22.7	27-32 pg
MCHC		28.7	31.5-34.5g/dl
RDW-CV		20.6	11.6-14.0%
D-Dimer		6389	<250 ng/ml
LDH		922	81-234 U/L
RBS		98	Upto 180mg/dl
Protein		3 +	<150 mg/24hr
RBC		Plenty	Upto 4 /hf
WBC		6-8	2-5 /hpf

Note: MCV-; Mean corpuscular volume, MCH-;Mean corpuscular haemoglobin, MCHC-;Mean corpuscular haemoglobin concentration, RDW-CV-;Red cell distribution, TLC-;Total leukocyte count, LDH-; Lactate dehydrogenase, ALP-;Alkaline phosphatase, APTT-;Activated partial thromboplastin time, PT-;Prothrombin time, RBS-;Random blood sugar.

Ultrasound-bedside Scan:- Intrauterine fetal demise corresponding to approx 32 weeks 2days.

EEG:-It shows mild degree of diffuse non-specific electrophysiological dysfunction. No epileptiform abnormalities were noted.There was no evidence of PLEPS/ electrographic seizures (or) Nonconvulsive status epilepticus.

MRI:- Features are suggestive of posterior reversible encephalopathy syndrome. Normal mitral regurgitation study of the cerebral arteries and venous system.

DISCUSSION AND CONCLUSION:-

In this case study, the patient was diagnosed with eclampsia and IUD of fetus confirmed. Emergeny evaluation done and patients condition was discussed with patient guardians and high risk consent was taken. She was shifted to OT and underwent emergency LSCS (Lower segment caesarean section) surgery, during this 4units of FFP and 2uints of PRBC was transfused, along with infusion of Nor-adrenaline 3mg/hr and Oxytocin 15 units. After surgery, she was shifted to ICU, there she was on oxygen support anti-hypertensives Labetalol IV 4mg, antibiotic: Magnex fort 1.5gm IV, anti-diuretics: Lasix (40mg) IV, Fentanyl 50mcg IV and other supportive medications were given. Later at night the temperature was high about 100.8F for Paracetamol 1gm IV stat was given. Respiratory system-BAE positive and crepts positive. Chest X-ray showed bilateral haziness and right lower lobe opacity, Gram stain ET) showed- pus cells:few, no bacteria, CRP-135. On day 4th patient showed complaints with Shortness of breath and cough. She confirmed with ventilator associated pneumonia and Catheter associated Urinary tract infection. This was managed with Clindamycin 600mg IV (aspirational pneumonia), Nebuliser. Duolin 2resp and Nebuliser mucomix 2resp and Cabergolin 0.5mg stat was administered. Also 2 units of PRBC was transfused, in view of low haemoglobin levels. Patient's nutritional supply was maintained through Ryle's tube for 3days. Then she was extubated on 5th day and shifted to NIV. Then patient was switched from IV to PO drug route. The patient blood parameters got corrected and under aseptic conditions abdominal drain was removed .She was hemodynamicaly stable.

Preclampsia is a new onset or worsening of existing hypertension. If preeclampsia is left untreated and is present for a variable time, then it can suddenly progress to eclampsia. Untreated eclampsia can be fatal. In this case, the patient had previous history of GTC seizures , which was not evaluated and not treated. Also the was not on medication Aspirin which is the recommended medication for preventing the advancement of preeclampsia to eclampsia.

Acknowledgement:-

I am thankful to each and every person for contribution of successful accomplishment of the case report.

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