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CASE SERIES STUDY OF SEVERE PRE-ECLAMPSIA/ECLAMPSIA PATIENTS WITH PERINATAL & MATERNAL MORTALITY DURING THIRD WAVE OF COVID-19 PANDEMIC IN A TERTIARY INSTITUTE

Obstetrics & Gynaecology

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ABSTRACT

Background: Preeclampsia is a multi-organ disease characterized by the development of hypertension and proteinuria. The World Health Organization estimates that preeclampsia is directly responsible for 10 % of direct maternal mortality in Asia and also leads to significant neonatal morbidity and mortality. **Objective:** To ascertain the link between severe pre-eclampsia/ eclampsia patients with perinatal and maternal deaths during the 3rd wave of covid-19 pandemic **Methodology:** Retrospective Case series study from November 2021 to February 2022 at the Department of Obstetrics and Gynaecology RIMS. Data were collected from 5 severe pre-eclampsia and 2 eclampsia patients admitted in Obstetrics and Gynaecology Department, RIMS. **Results:** All the 7 patients had perinatal deaths and all (100%) were Unbooked. There were 5 cases of intrauterine deaths (71.43%) and 2 (28.57%) neonatal deaths (Preterm meconium and another vehicle delivery with eclampsia). HELLP syndrome was developed in two cases and retinopathy in 3 cases. Prophylactic MgSo4 was given to all the cases but one maternal death was seen due to massive cerebrovascular accident and eclampsia before reaching the emergency care. **Conclusion:** Regular antenatal testing with nonstress tests at the time of diagnosis and repeating twice weekly for FGR or oligohydramnios with Umbilical artery Doppler ultrasound weekly if FGR present and timely control of hypertension with medications with low dose aspirin starting between 12 and 16 weeks of gestation will help in reducing both maternal and perinatal morbidity as well as mortality. Self-monitoring of blood pressure in this era of covid 19 pandemic may result in earlier detection of pre-eclampsia

KEYWORDS

Pre-eclampsia, Perinatal morbidity, eclampsia

INTRODUCTION:

Preeclampsia is a multi-organ disease characterized by the development of hypertension and proteinuria. The World Health Organization estimates that preeclampsia is directly responsible for 10 % of direct maternal mortality in Asia and also leads to significant neonatal morbidity and mortality.[1] Pre-eclampsia (PE) is characterized by a rise in blood pressure systolic more than or equal to 140 and diastolic more than or equal to 90 and development of proteinuria after 20 weeks of pregnancy or other signs & symptoms may present in some women in in the absence of proteinuria.[2] Severe features are thrombocytopenia, impaired liver functions, severe persistent pain , renal insufficiency, pulmonary edema, new onset headache, visual distrubances or BP more than 160/110.[3] Severe PE is one with BP more than or equal to 160/110mmHg with sign and symptoms of end organ failures.

AIMS & OBJECTIVES:

To ascertain the link between severe pre-eclampsia/ eclampsia patients with perinatal deaths

MATERIALS & METHODS:

Study design:
Retrospective Case series study.

Study duration:
November 2021 to February 2022.

Study setting:
Department of Obstetrics and Gynaecology RIMS. Data were collected from 5 severe pre-eclampsia and 2 eclampsia patients admitted in Obstetrics and Gynaecology Department, RIMS, Imphal, Manipur.

Case 1: Mrs X1, 31 years, Primigravida at 28wks 1 day of gestation, **unbooked,** was admitted as a referred case of severe PE, BP 210/110 mmHg without any pre monitoring symptoms. On examination Uterus size was less than the period of gestation and no FHS, confirmed by USG. With proteinuria (2+) and elevated Serum LDH (650). Inj Labetalol and Prophylactic MgS04 Loading dose given. She was induced with Dinoprostone gel followed by Misoprostol & expelled a single dead female foetus weighing 500 gm. Post-delivery BP was>160/110 ,Tab Telmisartan 20mg and Tab Amlodipine 10 mg started after consultation with Medicine. Her BP was controlled with the medications and discharged

Case 2: Mrs X2, 21years old, G1P0, 34W 5D, IUGR, Unbooked**,** brought **Unconscious,** with h/o rolling up of eyes & involuntary movement of limbs. She had no P/h similar episodes. Her BP was 170/100 mmHg with no FHS. Confirmed by USG. Inj MgSO4 (Pritchards regim) and Inj Labetalol were given. Her investigations showed 3+ proteinuria. P/V: 6 cm os dilatation. She progressed spontaneously and delivered a single dead fetus of 1.7 kg. She gradually improved her consciousness & BP was controlled. Her fundus examination showed retinopathy.

Case3: A 30 yrs old case of G4P2012, unbooked at 33 weeks 4 days with severe PE with SCH was referred from one private hospital with complain of blurring of vision, headache. She had 2 ANC visits with one private clinician and she was on Labetalol 100 mg, uncontrolled. On admission her BP was 210/110 mmHg.Inj Mg So4(Pritchards regimen) was given. Inj Labetalol 20mg, 40, 80 mg were given. She complained of no foetal movement and ultrasound screening of foetal wellbeing was done which showed intrauterine foetal demise. She was induced with cytolog 25mcg and expelled a single dead female foetus. Postpartum BP was controlled with tab Telmisartan 40mg

Case 4: A 27 years old G2P1001, unbooked at 33 weeks 4 days, severe

PE with P/H of eclampsia (on Tab Ecospirin75mg & Labetalol 100mg from a Clinic), brought with complain of blurring of vision & Epigastric pain with BP-166/100.Pritchards regimen of MgSO4 & Antenatal steroid was given. Obstetric Doppler USG at 32wks showed umbilical artery mild persistent pre diastolic notch, AFI-6.6cm with EFW-2.25kg. She underwent Em LSCS & delivered a single male baby with A/S, of 5/10 at 5 min with thick meconium after which the baby expired after admission NICU. She developed HELLP Syndrome subsequently.

Case 5: A 36 years old G2P0010, unbooked at 37 weeks of gestation was referred from CHC with BP-200/100 mmHg with IUD. Prophylactic MgSO4 was given. She visited to their local PHC twice at 22 weeks and 27 weeks of gestation. Routine investigations and PIH profile were sent and **Urine protein** was **3+ and LDH -750**. Abdominal examination corresponded to POG. Os was 4 cm dilated and she progressed spontaneously and delivered a single dead female foetus. Her BP was observed for 5 days and controlled.

Case 6: A 29 Years old G3P2002, unbooked at 33 weeks of gestation with Chronic hypertension (180/100) came with complain of vomiting with no FHS confirmed by USG. She was given with MgSO4.She was on irregular medication with Tab LABETALOL 200mg twice daily. USG. She was induced and she expelled a dead female foetus.

Case 7: A 27 years old G3L2A1, **Unbooked,** chronic hypertension with irregular medication with superimposed **Eclampsia** expelled a preterm baby on the way to hospital was brought unconscious with BP 166/106 mmHg. Inj MgSO4 loading dose was given. She didn't gain her consciousness and succumbed on day 3 of expulsion. Her NCCT Brain showed ICH leading compressive brainstem failure. Baby was admitted to NICU and expired due to prematurity and birth asphyxia.

Outcome: All the 7 cases had perinatal deaths (100%) and all were Unbooked. There were 5 cases of intrauterine deaths (71.43%) and 2 (28.57%) neonatal deaths (Preterm meconium and another vehicle delivery with eclampsia). HELLP syndrome was developed in two cases and 3 cases had developed retinopathy on fundus examination. Prophylactic MgSo4 was given to all but one maternal death was there due to massive cerebrovascular accident and eclampsia before reaching the emergency care.

Table 1: Showing characteristics of the severe PE cases

Variables	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6	Case 7
Age	31 yr	21 yr	31 yr	29 yr	36 yr	29 yr	27 yr
No. ANC	1	None	2	2	2	2	1
G age wk	28+1	34+5	33+4	35+6	37	33	32
BP mm Hg	210/ 110	160/ 110	164/ 100	166/ 100	200/ 100	180/ 100	166/ 106
Fetal O	IUD	IUD	IUD	Neonatal death	IUD	IUD	VD
Maternal O	HELLP sx	Stable	Stable	HELLP sx	Stable	Stable	Died of CVA, Eclampsia
Platelet	1 lac	1.5 lac	2.3 lac	1.5lac	1.7 lac	2.2 lac	1.2 lac
Hb	10.1	11.6	9.9	12.4	11.2	10.4	11
LFT	Im paired	Normal	Im paired	Im paired	Normal	Im paired	
Retino pahy	Present	present		present			
Pronteinuri	2+	3+			3+		3+
S uric acid	Elevated	Normal					Elevated
LDH	elevated	Normal	elevated	Normal	Normal	elevated	

DISCUSSION:

Hypertensive disorders of pregnancy (HDP) are the second leading cause of maternal mortality and a significant cause of short and long term maternal and fetal morbidity.[4] HDP population-based incidence expressed per pregnancy (7.5%) underestimates the number of women affected by this condition during reproductive years (15.3%)[4]. Maternal mortality in women with eclampsia is very high in India, 8% to 14%.[5] During the covid-19 era, many antenatal patients were not going for check up properly leading to late diagnosis of pre-eclampsia leading to very high perinatal deaths and even maternal death. In this case series study, 1 out of 2 eclampsia patients (50%) died due to hypertensive related complication. Perinatal mortality continues to be high upto 20 % in developing countries.[6] All the 7 unbooked cases had perinatal mortality (100%). But early delivery within 24 hours of presentation, 6 out of 7 patients were delivered and so maternal deaths were prevented. Self-monitoring of blood pressure in the era of covid-19 pandemic might result in earlier detection of pre-eclampsia. Unbooked and late detection of severe PE leads to very high perinatal and maternal mortality.

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Conflict of interest: Nil

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