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Fetomaternal Outcome In Severe Pre Eclampsia

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ABSTRACT: Hypertensive disorders of pregnancy are a major cause of maternal morbidity and mortality. Preeclampsia is characterised as mild or severe. Features of severe preeclampsia include severe proteinuria, hypertension, symptoms of central nervous system dysfunction, hepatocellular injury, thrombocytopenia, oliguria, pulmonary oedema, cerebrovascular accident and severe intrauterine growth restriction. **AIM:** To determine feto maternal outcome in severe preeclampsia. **MATERIALS AND METHODS** This prospective, observational study was worked out in the Dept. of Obstetrics and Gynaecology, MKCG Medical College Berhampur, Odisha from September 2017 to december 2018. Cases of severe preeclampsia were identified. Routine Blood samples were collected for laboratory evaluation. Maternal complications such as eclampsia, HELLP syndrome, acute renal insufficiency, disseminated intravascular coagulation, placental abruption, cerebral and visual disturbance, oliguria, IUGR, pulmonary oedema and fetal complections were recorded. **RESULTS** Among the cases of severe preeclampsia, most were in the age group of 21 - 30 years (56%), were illiterate (57.8%) and stayed in rural areas (72.9%). Most of them belonged to lower socioeconomic status (41.3%) followed by middle and majority were booked cases (70.6%). Most common clinical feature was raised SBP (> 160) in 204 cases and DBP > 110 in 208 cases. Oedema was associated in 79.3% cases and rare feature like visual disturbances was seen in 3.8% of cases. Most of the maternal complications were due to development of pulmonary oedema (29.3%) and most common foetal complication observed was acute foetal distress (24.1%) followed by oligohydramnios (13.7%). **CONCLUSION** The goals of therapy must always be the safety of the mother first and then consideration for optimum perinatal outcomes.

KEYWORDS: Maternal Complications, Pregnancy Outcome, Proteinuria, Severe Preeclampsia.

INTRODUCTION:

Hypertensive disorders of pregnancy are a major cause of maternal morbidity and mortality.[1] These generally involve hypertension related conditions occurring primarily during pregnancy or may be pre-existing and persist during and/or after pregnancy.[2] Generally, hypertensive disorders of pregnancy are said to complicate 5% - 10% of pregnancies and account for 10% - 15% of maternal deaths globally.[3,4] The development of hypertension and proteinuria in pregnancy is usually due to preeclampsia, particularly in a primigravida. Preeclampsia is characterised as mild or severe. Features of severe preeclampsia include severe proteinuria, hypertension and symptoms of central nervous system dysfunction, hepatocellular injury, thrombocytopenia, oliguria, pulmonary oedema, cerebrovascular accident and severe intrauterine growth restriction. Women with severe preeclampsia must be hospitalised to confirm the diagnosis, to assess the severity of the disease, to monitor the progression of the disease and to try to stabilise the disease.[5] One of the rare effects of severe preeclampsia on the eye is sudden loss of vision due to involvement of the occipital cortex or the retina.[6] Subcapsular hepatic haematoma caused mainly by the development of disseminated intravascular coagulation is one of the rare complications experienced with severe preeclampsia and eclampsia.[7] The goals of therapy must always be the safety of the mother first and then consideration for optimum perinatal outcomes. The only treatment for severe preeclampsia is delivery.[8]

OBJECTIVES:

To determine maternal, foetal and neonatal outcome in severe preeclampsia.

PATIENTS AND METHODS :

This prospective observational study was worked out in the Dept. of Obstetrics and Gynaecology, MKCG Medical College and Hospital,Berhampur, Odisha.Severe preeclampsia cases was defined as the presence of one or more of the following criteria: (a) Blood pressure (BP) Of 160 mmHg or higher systolic or 110 mmHg or higher diastolic on two occasions at least 6-h apart, while the patient is in bed rest; (b) Proteinuria of 5 g or higher in a 24-h urine specimen; (c) Oliguria of less than 500 mL in 24 h; (d) Cerebral or visual disturbances; (e) Pulmonary oedema; (f)

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Epigastric or right upper quadrant pain; (g) Foetal growth restriction; (h) Symptoms such as persistent severe headache; (i) Medical complications involving acute renal insufficiency, hepatic haematoma or HELLP syndrome. Patients were hospitalised in labour ward. On admission, blood pressure measurements were done. Blood samples were collected for laboratory evaluation. Maternal complications such as eclampsia, HELLP syndrome, acute renal insufficiency, disseminated intravascular coagulation,
placental abruption, cerebral and visual disturbance, oliguria, IUGR, pulmonary oedema etc. were recorded. Data regarding the demographic parameters, gestational
age, persistent sign and symptoms, blood pressure measurement on admission, laboratory evaluation of blood samples (complete blood count, liver enzymes, creatinine, coagulation profile, platelet count) were recorded. Results were analysed using percentage and proportion.

OBSERVATIONS:

In the study period total 304 patients were admitted as cases of preeclampsia, out of which 232 were categorised as severe preeclampsia.Majority patients of severe preeclampsia were term pregnancies (57.9%) followed by 34 - 36 weeks GA. Preeclampsia was found to be more common in nullipara patients (41.9%). Most common clinical feature was raised SBP (> 160) in 204 cases and DBP > 110 in 208 cases. Oedema was associated in 79.3% cases and rare feature like visual disturbances was seen in 3.8% of cases. Table 3 shows among all patients of severe preeclampsia
81% had raised serum liver enzymes, serum LDH was raised in 82.7% of cases, serum uric acid > 4.5 was found in 74.1% and abnormal levels of serum urea and creatinine was seen in 68.1% cases. All cases received Inj. Magnesium sulphate as prophylactic anticonvulsant. Hypertension was controlled by labetalol (IV and oral) in 97.4% and addition of nifedipine was required in 19.3% cases. Hydrocortisone was used in 31%, furosemide in 27.5% and nebulisation with salbutamol and budesonide was required in 25% cases. Most of the maternal complications associated with
severe preeclampsia was due to development of pulmonary oedema (29.3%). Low platelet count (< 50,000) was seen in 7.7% cases. The occurrence of abruptio placentae and eclampsia was in 6.8% and 6.0%, respectively. The patients of
severe preeclampsia that developed eclampsia, mostly it occurred in post-partum period. Respiratory failure in 1.7% and both DIC and HELLP syndrome were seen in 0.8% cases. Most common mode of delivery was caesarean section (76.7%) followed by vaginal delivery (21.6%). Hysterotomy was done only in 4 cases. Out of all patients of severe preeclampsia, only 12 patients died due to severe complications.
The most common foetal complication observed was acute foetal distress (24.1%) followed by oligohydramnios (13.7%). IUGR was seen in 9.0% and still birth occurred in 7.3% cases. 127 neonates were referred to NICU (54.7%). Among neonates 65.5% were premature and 26.7% were born with low APGAR score, both at 1 and 5 minutes. 14 cases died in early neonatal period.

CONCLUSION

Women with severe preeclampsia have a greater chance to develop maternal complications and have a poor neonatal outcome, especially if they had not received prenatal care. The risk factor in women with gestational hypertension associated with maternal complications and poor pregnancy outcome was slight proteinuria that may lead to a greater likelihood of DIC and placental abruption. Risk factors associated with severe preeclampsia were prenatal care status, advanced maternal age, SBP and DBP, and significant proteinuria. In addition, with regard to the effect of gestational hypertension in patients with mild proteinuria, maternal complications became the only significant factor that contributed to pregnancy outcome. To tackle these figures on maternal, foetal and neonatal health, governments in low-resource settings must focus on development and enabling women to be in an economic position to access health care easily. There should be affordable and accessible antenatal care services where women are taught about the dangers of preeclampsia/eclampsia, so that they present early to hospitals. This would help prevent complications and unnecessary loss of lives. Neonatal care facilities need to be improved to improve the outcomes from the units. Neonatal health must be placed on the global agenda and given the same attention as maternal health. Global efforts must involve developmental aid and debt relief to poor countries, so that these countries can channel the funds to women and neonatal health issues.

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Characteristics	No. of Cases of Severe Preeclampsia	%
Age		
<20 years	41	17.7
21-30 years	130	56.0
31-40 years	59	25.5
>40 years	2	0.8
Education		
Literate	98	42.2
Illiterate	134	57.8
Habitus		
Rural	169	72.9
Urban	63	27.1
Socio-Economic Status		
Low	96	41.3
Middle	74	31.8
High	62	26.9
Antenatal Care		
Booked	164	70.6
Unbooked	68	29.4

Table 1. Demographic Parameters

Characteristics	No. of Cases of Severe Preeclampsia	%
GA		
<28 weeks	6	2.5
28-34 weeks	40	17.2
34-36 weeks	52	22.4
≥37 weeks	134	57.9
Parity		
Nullipara	97	41.9
Primipara	55	23.7
Multipara	80	34.4
Clinical Features		
SBP > 160	204	87.9
DBP > 110	208	90.0
Proteinuria	202	87.0
Oedema	184	79.3
Visual Disturbances	9	3.8

Table 2. Clinical Characteristics

Investigation	No. of Cases	%
Raised AST/ALT	188	81.0
Raised LDH	192	82.7
Raised Serum Uric Acid	172	74.1
Abnormal RFT	158	68.1

Table 3. Investigations

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Anticonvulsant	No. of Cases	%
Inj. Magnesium sulphate	232	100
Antihypertensive		
Labetalol	226	97.4
Labetalol + Nifedipine	45	19.3
Miscellaneous		
Hydrocortisone	72	31.0
Furosemide	64	27.5
Nebulisation	58	25.0

Table 4. Treatment Modalities

Complications	No. of Cases	%
Eclampsia	14	6.0
Abruptio placentae	16	6.8
Acute renal failure	10	4.3
DIC	2	0.8
HELLP syndrome	2	0.8
Pulmonary oedema	68	29.3
Low platelet count	18	7.7
Respiratory failure	4	1.7
Mode of Delivery		
VD	50	21.6
LSCS	178	76.7
Hysterotomy	4	1.7
Outcome		
Survived	220	94.9
Died	12	5.1

Table 5. Maternal Complications

Foetal Complication	No. of Cases	%
Still Birth	17	7.3
IUGR	21	9.0
Oligohydramnios	32	13.7
Acute Foetal Distress	56	24.1
Neonatal Complication		
Low APGAR Score	62	26.7
Prematurity	152	65.5
NICU Referral	127	54.7
Early Neonatal Death	14	6.0

Table 6. Foetal and Neonatal Complications

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