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Research Article

A Prospective Study of Severe Pre-Eclampsia in Pregnancy

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Abstract: To determine the age, parity, gestational age, mood of delivery and perinatal outcome in pregnant women with severe pre-eclampsia. The study covers 1year period, during which 200 patients with severe pre-eclampsia were selected and were treated and delivered. The study was done for age, parity, gestational age, mode of delivery and perinatal outcome including birth weight and frequency of stillbirths. Among the study a high proportion (56.0%) was nulliparous women. Similarly, severe pre-eclampsia was encountered at a high percentage (45.5%) in women at the 20-24 years of their reproductive age, and more women with severe pre-eclampsia delivered at 37weeks or more (80%) . Spontaneous vaginal deliveries were less frequent in women with severe pre-eclampsia (34.5%) as compared with caesarean section (60.5%). Caesarean section was mostly due to fetal distress (44.9%). Instrumental deliveries with spontaneous labour amounted to 10% in women with severe pre-eclampsia. The perinatal outcome with severe pre-eclampsia shows 5.5% of fetal demise, out of which stillbirths (2.5%) and IUD (3%). In our study we found a high proportion of severe pre-eclampsia cases occurring among nulliparous women and those at the extreme ends of the reproductive age. There is also an increased incidence of caesarean section among the severe pre-eclampsia and were mostly due to fetal distress.
Keywords: Severe pre-eclampsia, Caesarean section

INTRODUCTION

Pre-eclampsia and eclampsia are important causes of maternal morbidity and mortality for women and her child, although outcome is often good [1]. Pre-eclampsia and eclampsia probably account for more than 50,000 maternal deaths a year [2]. Pre-eclampsia is a pregnancy specific syndrome that usually occurs after 20weeks of gestation. It is a multisystem disorder of pregnancy usually associated with raised Blood Pressure and proteinuria and complicates 2-8% of pregnancy [3]. The criteria for diagnosis are, raised Blood Pressure of Systolic BP of 140mmHg or higher and Diastolic BP of 90mmHg or higher that occurs after 20weeks of gestation in a women with previously normal blood pressure. And proteinuria defined as urinary excretion of 0.3g protein or higher in a 24 hours urine specimen. Pre-eclampsia is considered severe [4] if systolic BP of 160mmHg or higher and Diastolic BP of 110mmHg or higher on two occasions at least 6 hours apart while the patient is at bed rest or with proteinuria of 5g or higher in a 24 hours urine specimen or 3+ or greater on two random urine samples collected at least 4 hours apart or with sign, symptoms or laboratory values of severe preeclampsia with elevated BP with one or more of the following criteria-

- Oliguria of less than 500 ml in 24 hours.
- Cerebral or visual disturbance
- Pulmonary oedema
- Epigastric or right upper quadrant pain.
- Impaired liver function.
- Thrombocytopenia.
- Fetal growth restriction.

MATERIALS AND METHODS

This study "A Prospective Study of Severe Pre-Eclampsia in Pregnancy" was carried out in the Department of Obstetrics and Gynaecology, Gauhati Medical College and Hospital, Guwahati and covered a period of one year from 1st August 2014 to 31st July 2015. During the study period, 200 pregnant women with severe pre-eclampsia were admitted and treated.

Pre-eclampsia is considered severe in patients beyond 20weeks of pregnancy or during labour having one or more of the following criteria- Systolic BP of 160mmHg or higher and daistolic BP of 110mmHg or higher in two occassions at least 6 hours apart while the patient is at bed rest, proteinuria of 5g or higher in 24 hour urine specimen or 3+ or greater on two random urine samples collected at least 4 hours

apart (even if BP is in the mild range), oliguria or less than 500ml in 24 hours, cerebral or visual disturbance, including altered consciousness, persistent headache, scotoma or blurred vision, pulmonary oedema, epigastric or right upper quadrant pain or elevated serum liver transaminases without a known cause, impaired liver function , thrombocytopenia , with platelet count ≤ 100,000/µl , fetal growth restriction, microangiopathic hemolytic anaemia (raised bilirubin >1.2mg%, LDH >600IU/L, low haptoglobin). A detailed history was taken from the patients and complete examination was done at the time of admission. Investigations done were, Blood grouping, Routine examination of blood, Platelet count, RBS, Blood urea, Serum creatinine, Serum uric acid, LDH, Liver function test, Coagulation studies if platelet count <1 lakh, ECG, Urine for albumin detection by heat coagulation test done for all cases, Evaluation of fetal size and well- being and amniotic fluid volume with sonography was done. The antihypertensive used were alpha methyl dopa and labetalol. Progress of labour was monitored by a partograph recording. Patients were either induced or allowed for spontaneous labour. Neonatal outcomes were assessed. The data collected from the following observations were statistically analysed using Chi- square test and student t test.

RESULTS

During the study period of 1 year, 200 pregnant women with severe pre-eclampsia were selected to determine the age, parity, gestational age, mood of delivery and perinatal outcome. As mentioned in TABLE-1, in our study, most of the cases i.e. 45.5% belonged to the age group of 20-24 years. Mean age was 24.68 years±(4.678SD), Median-24years. Minimum age was 18 years and maximum age seen was 38 years. In our study, the highest incidence of severe pre-eclampsia was among the primigravidas (56%) and is depicted in TABLE-2. Regarding the gestational age, as shown in TABLE-3, in our study 80% were term gestation being 37 weeks or more. Mean duration of gestation was 38.62 weeks±(2.887 SD), Median was 40 weeks of gestation. Minimum gestation at which severe preeclampsia occurred in our study was 27 weeks and the maximum was 43 weeks.

As shown in TABLE-4 and TABLE-5, in our study, spontaneous vaginal deliveries were less frequent in women with severe pre-eclampsia (34.5%) as compared with caesarean section (60.5%). Caesarean sections were mostly due to fetal distress (44.9%). Instrumental deliveries, with spontaneous labour, amounted to 10% in women with severe pre-eclampsia. It was observed that, 70% of patients delivered babies with birth weight of 2.1-3kg. Mean birth weight was 2.140kg±(0.6264 SD), Median-2kg. The minimum birth weight was 700gms and the maximum birth weight was 4.2kg as shown in TABLE-6. In our study we found that, out of 200 patients, there were 189 live births and 11(5.5%) fetal demise. Thus out of total perinatal mortality, 3% were IUD before admission and 2.5% were still birth, as depicted in TABLE-7.

Table 1- Age distribution of patients

AGE GROUP	15-19	20-24	25-29	>29	TOTAL
NO. OF CASES	13	91	62	34	200
%	6.5	45.5	31	17	100

Table 2-Distribution of patients based on parity

PARITY	G1	G2	G3	G4	G5	G6	G7	G8	TOTAL
NO. OF CASES	112	44	26	11	2	2	2	1	200
%	56	22	13	5.5	1	1	1	0.5	100

Table 3-Duration of pregnancy

DURATION OF PREGNANCY	25-28WKS	29-32WKS	33-36WKS	≥37WKS	TOTAL
NO. OF CASES	3	8	29	160	200
%	1.5	4	14.5	80	100

Table 4- Mode of delivery

Mode Of Delivery	SVD	Instrumental	LSCS	Destructive Operation	Total
NO. OF CASE	69	10	121	0	200
%	34.5	5	60.5	0	100

Table 5 – Indication of operative interference

Indication For Operative Interference	Fetal Distress	Oligohydramnios	Post CS	Induction Failure	Postdated	IUGR	Breech	Others	Total
NO. OF CASES	57	14	11	10	3	7	4	21	127
%	44.9	11	8.7	7.9	2.3	5.5	3.1	16.5	63.5

Table 6- Weight of baby at birth

WEIGHT OF BABY	≤1KG	1.1-2KG	2.1-3KG	>3KG	TOTAL
NO. OF CASES	3	24	140	33	200
%	1.5	12	70	16.5	100

Table 7 – Fetal demise

FETAL DEMISE	IUD	STILL BORN	TOTAL
NO. OF CASES	6	5	11
%	3	2.5	5.5

DISCUSSION

In our study the occurrence rates of severe pre-eclampsia were highest in an age group below 24 years. This is comparable to other studies which show the peak incidence of eclampsia in the teenage years and low twenties [4, 5]. The incidence of severe pre-eclampsia in nulliparous population was 56% in our studies. This is consistent with the high incidence and risk of severe pre-eclampsia in the nulliparous population.

In our study 20% of the cases had severe pre-eclampsia preterm, out of which 14.5% were between 33-36 weeks. In the study by Seth et al , 47% patients were over 36 weeks gestation and 31.8 % were between 32-36 weeks gestation[6] the disparity in gestational age in our study could be possibly due to late onset of severe pre-eclampsia in our study population. Regarding mode of delivery in our study we found that there was an increased in operative interference in patients with severe pre-eclampsia, which was mainly due to a high incidence of fetal distress. The higher rate of caesarean section was might be with an aim to prevent complications to the fetus as well as the mother.

CONCLUSION

In our study we found a high proportion of severe pre-eclampsia cases occurring among nulliparous women and those at the extreme ends of the reproductive age. There is also an increased incidence of caesarean section among the severe pre-eclampsia and were mostly due to fetal distress.

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