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CLINICAL PROFILE OF PRE-ECLAMPSIA: A PROSPECTIVE STUDY

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ABSTRACT **Introduction:** Pre-eclampsia is one of the primary causes of illness and mortality among mothers and newborns. The reported rates range from 3.0 to 10% depending on the population under study and the clinical definitions of pre-eclampsia. Pre-eclampsia's causation is unknown; however evidence suggests that the placenta may play a significant role in the pathophysiology of the condition. **Methods:** The current prospective observational study was carried out over a one-year period in the tertiary care center's departments of obstetrics and gynecology. women who were unable or unwilling to take part were not included. Every woman with a singleton pregnancy who attended the antenatal appointments at 20 weeks gestation was considered a case. **Results:** In our study 60% of delivery was LSCS, 32% of delivery was normal delivery, and 8% of delivery was done by instruments. out of the 15 preterm babies 12 admitted to the NICU. Out of the 75 cases, 24% cases had maternal complication and 8% of cases had feotal complication. 68% of cases had no complication. The lowest CA125 level was 12.45, highest Ca125 level was 87.72, and the mean CA125 level was 49.48±21.20. **Conclusion:** Our research indicates that pre-eclampsia with an early onset is linked to worsening maternal and perinatal outcomes in addition to a higher degree of illness severity. Furthermore, there is a chance that mothers who develop eclampsia after giving birth may not have a favorable outcome. Women and their families need to be more aware of warning signs, but lower-level facilities also need to be able to identify symptoms early and make prompt referrals.

KEYWORDS : Pre-eclampsia, Parity, Gravida

INTRODUCTION

One of the main causes of maternal and neonatal morbidity and mortality is preeclampsia.[1] According to the examined population and the clinical definitions of pre-eclampsia, reported rates range from 3.0 to 10%.[2,3] Although the cause of pre-eclampsia is not fully understood, it indicates that the placenta may be crucial to the disease's pathophysiology.[4,5] Nulliparity, family history of or prior experience with pre-eclampsia, pre-existing diabetes, an increased pre-pregnancy body mass index (BMI), multiple pregnancies, extreme maternal age (<20 or >40 years), renal disease, chronic hypertension, and chronic autoimmune disease are among the reported risk factors for preeclampsia.[6]

For both the mother and the child, pre-eclampsia can be a heart-breaking and life-threatening condition. It may result in anomalies of the coagulation system, as well as issues with the mother's liver, kidneys, and brain. The following are the rare, yet life threatening complications: stroke, HELLP syndrome (hemolysis, elevated liver enzymes, and low platelets), eclampsia (the onset of seizures) and DIC.

Overall, infant mortality among mothers with pre-eclampsia is three times higher in developing nations than it is in developed nations.[7] Compared to mothers who did not have this condition while pregnant, children of mothers who experienced preeclampsia during pregnancy are more likely to develop cerebral palsy.[8]

Significant health issues for both women and their new-born later in life are also linked to pre-eclampsia /eclampsia. There is considerable evidence that pregnant women who had pre-eclampsia had a higher lifetime risk of developing cardiovascular illnesses.[9,10] The present study was aimed to evaluate the clinical profile of pre-eclamsia.

METHODS

The present prospective, observational study was conducted in Departments of Gynecology and Obstetrics, tertiary care center, over a period of one year. women, and/or unwilling to participate were excluded. Cases included all women with singleton pregnancy attending the antenatal visits at 20 weeks of gestation. The inclusion criteria were included, pregnant women attended to antenatal clinic, labour ward and emergency unit at 20 weeks of gestation, singleton pregnancy without any congenital anomaly or chromosomal abnormality, and pregnant women who have given a written and a verbal consent. Exclusion criteria were included, pregnant women with chronic hypertension, pregnant women with peripheral vascular disease, pregnant women on antihypertensive medication/ treatment, pregnant women having heart and kidney disease, and pregnant women with co-existing tuberculosis in pregnancy, fibroids and ovarian cysts in pregnancy. Data were collected from the department of gynecology and obstetrics in tertiary care center.

Data were presented as frequency, percentage, mean, and standard deviation (SD).

RESULTS

Baseline Characteristics

In our study, the most age group was 20-24 years (42.67%) and 25-29 years (34.67%) followed by <20 year (2.67%), 30-34 years (10.67%), 35-39 years (5.33%), and >40 years (4%). 42.67% of the patients presented with as para 1 while 28% presented as nullipara.16% patients presented with Para 2 while the rest 13.33% presented as multipara. A majority of patients with pre-eclampsia were diagnosed during 33-40 weeks of gestation (88%). 2 cases presented at <28 weeks while 3 cases presented at > 40 weeks of gestation. A majority of patients (50%) presented as primi-gravids while the rest 44% presented as multi-gravid (Table 1).

Type of Delivery

Table 3 shows that the, 60% of delivery was LSCS, 32% of delivery was normal delivery, and 8% of delivery was done by instruments. out of the 15 preterm babies 12 admitted to the NICU (Table 3).

Type of Complication

Table 4 shows that out of the 75 cases, 24% cases had maternal complication and 8% of cases had feotal complication. 68% of cases had no complication (Table 4).

CA125

Table 5 shows that the, lowest CA125 level was 12.45, highest Ca125 level was 87.72, and the mean CA125 level was 49.48±21.20 (Table 5).

DISCUSSION

In the study that we conducted, 70 patients were selected who were diagnosed as preeclampsia in the Obstetrics and Gynaecology department in tertiary care center were selected after matching the inclusion and exclusion criteria.

A complete history and clinical examination, general physical examination and obstetric examination was carried out for all patients after taking a well-informed consent. Basic and General physical and obstetric examination were done. Basic and necessary investigations were carried out.

The most age group was 20-24 years (42.67%) and 25-29 years (34.67%) followed by <20 year (2.67%), 30-34 years (10.67%), 35-39 years (5.33%), and >40 years (4%). 42.67% of the patients presented with as para 1 while 28% presented as nullipara.16% patients presented with Para 2 while the rest 13.33% presented as multipara. A

majority of patients with pre-eclampsia were diagnosed during 33-40 weeks of gestation (88%). 2 cases presented at <28 weeks while 3 cases presented at > 40 weeks of gestation. A majority of patients (50%) presented as primi-gravids while the rest 44% presented as multi-gravid. In a study by **Chaudhary** et al the mean period of gestation was 34.76±3.5weeks (25-40weeks) and the mean age of patients under study was 24.97±4.0years (20-37years). The mean systolic blood pressure at the time of recruitment was 145.5±6.9mmHg and the mean diastolic blood pressure at the time of recruitment was 93.81±5.3mmHg, after 4 hours mean SBP was 145.44±5.4mmHg and mean DBP was 93.3±4.8mmHg, respectively. The incidence of preeclampsia in primigravida was 60% and muti-gravida was 40%.[11] In a study **Mohseni et al** the mean maternal age was 24.45±7.60 years (range of 14-46 years old) and the mean gestational age was 28.18±2.75 weeks (range of 24-35weeks). Gestational age of 13 (19.7%) women was lower than 25 weeks, 43 (65.2%) women were between 26 to 30 weeks, and 10 (15.2%) women were more than 31 weeks. The parity range was 1-5. Of these cases, 49 patients (74.2%) had obvious proteinuria, while 17 (25.8%) participants had proteinuria less than 300mg based on their 24-hour urine samples.[12]

In our study, 60% of delivery was LSCS, 32% of delivery was normal delivery, and 8% of delivery was done by instruments. out of the 15 preterm babies 12 admitted to the NICU. Out of the 75 cases, 24% cases had maternal complication and 8% of cases had feotal complication. 68% of cases had no complication. In a study by **Reena and Sheela** out of the total, 81 participants were primi-gravida, and the remaining were multipara parity type and mode of delivery did not appear to be related.[13]

In our study, the lowest CA125 level was 12.45, highest Ca125 level was 87.72, and the mean CA125 level was 49.48±21.20. In a study by **Cebesoy et al** CA-125 parameters were significantly higher in the study group ($p < 0.001$), and were significantly higher in severe preeclampsia and eclampsia groups than in mild preeclampsia ($p < 0.001$).[14] In a study by **Ozat et al** serum CA-125 concentrations were found to correlate positively with systolic blood pressure ($r = 0.345$, $p = 0.001$), diastolic blood pressure ($r = 0.379$, $p = 0.001$), platelet count ($r = 0.368$, $p = 0.001$), serum levels of uric acid ($r = 0.415$, $p = 0.001$) and urine concentrations of protein ($r = 0.357$, $p = 0.001$). On the other hand, CA-125 levels correlated negatively with estimated fetal weight ($r = -0.451$, $p = 0.001$) and birthweight ($r = -0.363$, $p = 0.001$).[15]

CONCLUSION

In our finding, early onset pre-eclampsia is associated with greater disease severity as well as adverse maternal and perinatal outcomes. Moreover, women presenting with eclampsia during the postnatal period are also at risk of poor maternal outcomes. It is critical for women and their families to be more aware of danger signs, but also for lower-level facilities to be able to recognize symptoms early and refer in a timely manner.

Table 1: Baseline Characteristics

Baseline Characteristics	Frequency (n=75)	Percentage (%)
Age (Years)		
<20	2	2.67%
20-24	32	42.67%
25-29	28	34.67%
30-34	8	10.67%
35-39	4	5.33%
>40	3	4%
Parity		
0	21	28%
1	32	42.67%
2	12	16%
>2	10	13.33%
Gestational Age		
<28 weeks	2	2.67%
28-32 weeks	7	9.33%
33-36 weeks	35	46.67%
37-40 weeks	28	37.33%
>40 weeks	3	4%
Gravida		
1	42	56%
2	18	24%
3	8	10.67%
4	4	5.33%
>4	3	4%

Table 2: Clinical Characteristics

Clinical Characteristics	Frequency (n=75)	Percentage (%)
Blood Pressure (mmHg)		
<140/90	2	2.67%
140/90 to 160/110	45	60%
>160/100	28	37.33%
Proteinuria (g/dL)		
0	0	0
+1	3	4%
+2	51	68%
+3	21	28%
Serum Uric Acid		
2.0-4.0	15	20%
4.1-6.0	39	52%
6.1-8.0	15	20%
8.1-10.0	6	8%
Serum Creatinine		
<1.1	24	32%
1.1-3.0	45	60%
>3.0	6	8%

Table 3: Type of Delivery

Type of Delivery	Frequency (n=75)	Percentage (%)
Natural Labour	24	32%
Instrumental Delivery	6	8%
LSCS	45	60%
Preterm	15	20%

Table 4: Type of Complication

Type of Complication	Frequency (n=75)	Percentage (%)
No Complication	51	68%
Maternal Complication	18	24%
Foetal Complication	6	8%

Table 5: CA125

	CA-125
Lowest CA125 Level (IU/mL)	12.45
Highest CA125 Level(IU/mL)	87.72
Mean Serum CA125 (IU/mL)	49.48±21.20

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