



Clinical Profile and Outcome of Early Onset Preeclampsia

Dr Simi Kurian

Associate . Professor, Dept of Obstetrics & Gynecology, Academy of Medical sciences(ACME) ,Pariyaram Medical College PO ,Kannur District,Kerala - 670503.

Dr Reshmi V P

Asst . Professor, Dept of Obstetrics & Gynecology, Academy of Medical sciences(ACME) ,Pariyaram Medical College PO ,Kannur District,Kerala - 670503.

ABSTRACT

Pre eclampsia affects approximately 5-7% of pregnancies and Early onset Pre eclampsia is defined as presentation of hypertension and proteinuria before 34 weeks of gestation. Objective : Aim was to study the maternal and fetal outcomes in early onset pre eclampsia and to note the variable factors associated with maternal and fetal morbidity and mortality. Materials & methods : This is a prospective study on antenatal women with severe pre eclampsia admitted between 20 to 34 weeks gestation during the study period of one year. Results : Among the patients with early onset pre eclampsia , majority presented by 30-32 weeks.64% had to undergo termination of pregnancy within 48 hours.71% had caesarean section. Though mode of delivery had no influence on fetal outcome,LSCS rate was higher. Eclampsia, HELLP syndrome,PRES etc were the complications noted. In majority ,post delivery BP was controlled within 8 days.

KEYWORDS

Preeclampsia,Hypertension,Proteinuria

INTRODUCTION

Hypertensive disorders of pregnancy constitute a perplexing and clinically challenging group of pregnancy complications that are responsible for a substantial burden of illness in developed as well as underdeveloped countries of the world.

Globally, the incidence of Pre eclampsia in pregnant women is approximately 5-10%.It is characterised by raised blood pressure and abnormal levels of protein in the urine beyond 20 weeks of pregnancy

Pre eclampsia has been characterised by some investigators into 2 different disease entities ; early onset Pre eclampsia and late onset Pre eclampsia. Early onset Pre eclampsia is usually defined as Pre eclampsia that develops before 34 weeks of gestation whereas late onset Pre eclampsia develops at or after 34 weeks of gestation. Early onset Pre eclampsia causes more serious complications for mother and baby compared to late onset. So the timing of disease onset is a more important indicator of disease severity.

In this study we are analysing the incidence, risk factors, maternal and fetal outcome of early onset pre eclampsia.

AIMS AND OBJECTIVES

- 1 To study the gestational age specific incidence of preeclampsia.
- 2 To identify the risk factors of early onset preeclampsia.
- 3 To determine the maternal and fetal outcome of early onset preeclampsia.

MATERIALS AND METHODS

Study design

Descriptive hospital based study in the department of OBG ACME Pariyaram during a study period of 1 year.

All the pregnant patients admitted in the department with early onset preeclampsia during the study period was included. A detailed history including present, past, personal and family history was taken. The pregnancy outcome, delivery details, perinatal outcome and investigations were recorded in a predesigned proforma.

RESULTS

During the study period of one year, there were 1781 deliveries with 207 cases of pre eclampsia.Out of this,110 (53.1%) cases were with gestational age less than 34 weeks(Early onset pre eclampsia) and 97 cases (46.9%) cases with gestational age more than 34 weeks(Late onset pre eclampsia).

The demographic profile of the patients with early onset pre eclampsia is as follows:

Majority of patients (86.4%) were in the age group of 20-34 years,the mean age being 26 years.68.2% were primigravida.

There were more women with gestational age between 30-32 weeks(33%) at the time of high BP detection.50% delivered at gestational age between 32-34 weeks.

TABLE 1

Clinical characteristics	No. of patients	Percentage
Parity		
Primi	72	68.2
P1	34	31
P2	10	9
P3 and above	4	3.6
Gest.Age at onset		
<28 weeks	30	27.2
28-30 weeks	19	17.2
30-32 weeks	37	33.6
32-34 weeks	24	21.8
Gest Age at delivery		
<28 weeks	10	9
28-32 weeks	45	41
32-34 weeks	55	50

Regarding the mode of presentation,34% presented with headache as impending symptom. 22% had vomiting.21% had no impending symptoms. Convulsions (eclampsia) was the mode of presentation in 4.5%.

In majority of the women (41%),systolic BP was between 160-180 mm Hg.69% had diastolic BP between 110-130mm Hg. The mean systolic blood pressure was 164mm Hg and the

mean diastolic blood pressure was 114 mm Hg.

14 patients(12%) had past history of Pre Eclampsia. 1 patient had history of eclampsia in previous pregnancy.4 patients had chronic hypertension.20% of patients had family history of maternal hypertension and 8.1% had history of Pre eclampsia for the sibling.

Among the abnormal biochemical parameters,48% had albuminuria more than or equal to 3+. 50% had hyperuricemia with uric acid level more than or equal to 7. Severe hemolysis with LDH more than or equal to 1000 was seen in40%. 11.8% had blood urea levels more than 40mg%.18.1% had liver enzymes (SGOT,SGPT) more than 100 IU/L.

TABLE 2

Investigations	No. of patients
Urine Albumin	
1+	14
2+	43
3+ and above	53
Uric Acid	
5-7	55
7-9	36
>9	19
LDH	
600-1000	66
1000-1500	25
>1500	19
RFT	
Normal	42
Raised	68
Platelet	
Normal	98
Abnormal	12

64% of the patients had to undergo termination of pregnancy within 48 hours of admission.Only 22% could prolong pregnancy more than 3 days.The most common indication for termination of pregnancy was due to uncontrolled BP(36.3%),followed by severe Pre eclampsia with impending symptoms(31.8%) and IUGR with abnormal Doppler (14.5%). There were 18 cases of IUD (16.3%).

TABLE 3

Indications for termination	No of patients	Percentage
Uncontrolled BP	40	36.3
Impending Eclampsia	35	31.8
Intra uterine death	18	16.3
IUGR /Abnormal Doppler	16	14.5
Fetal distress	12	11
Eclampsia	5	4.5

71% had to undergo caesarean section, the indication being unfavourable cervix in 24.5%,failed induction in 10.9%.

Overall ,there were 109 live babies(82.7%) and 18 cases of IUD(16.3%).There were 48% male babies,57.2% female babies and one baby was born with ambiguous genitalia.35.9% babies had birth weight between 1-1.5kg and 31.7% babies had birth weight less than 1 kg. Majority of them required NICU admission because of prematurity. Among the complications in neonates, respiratory distress syndrome was the most common, other complications being necrotising enterocolitis and hypoxic ischaemic encephalopathy.

Among the maternal complications, there were 5 cases (4.5%) of eclampsia,4 cases (3.6%) of HELLP syndrome. We also had 2 (1.8%) cases of Posterior reversible encephalopathy syndrome(PRES).

Over diabetes mellitus was seen in 3.6% and gestational diabetes mellitus in 4.5% of patients.7.2% were with chronic hypertension.5 were twin pregnancies and there was one case of triplets.

TABLE 4

Complications	No of patients	Percentage
Eclampsia	5	4.5
HELLP syndrome	4	3.6
PRES	2	1.8
Renal failure	1	0.9
DIC	1	0.9
Abruption	7	6.8

DISCUSSION

The present study highlights the demographic characteristics of subjects, onset of pre eclampsia, biochemical and maternal complications, mode of delivery and outcome of pregnancy among patients with early onset pre eclampsia.

The incidence of pre eclampsia has been estimated between 5 and 10%.In our study, the incidence of pre eclampsia was high (11.6%),majority being early onset pre eclampsia(53.1%).This may be due to the fact that our institution is a tertiary care referral centre of North Kerala where high risk cases are referred from the periphery.

Pre eclampsia generally affects nulliparous women.Al Mulhim et al estimated that 42% of the women in their study were nullipara₅. In our study 68.2% were nulliparous.

In our study we evaluated the factors that affected maternal complications, including 24 hour urine protein levels at admission, biochemical parameters showing end organ damage, history of intrauterine death etc. The factors that affected perinatal outcome included gestational age at the time of admission and delivery. These results are consistent with other reports₈.

Currently, caesarean section is still the main delivery mode of early onset pre eclampsia to terminate pregnancy₁₁. In the present study, we found that the caesarean section rate was 71%. The reason for the high caesarean rate may be associated with the early gestational age of early onset severe pre eclampsia and poor cervical ripening, which frequently leads to the failure of labor induction. Moreover, Caesarean section can rapidly separate the foetus from an adverse intrauterine environment , especially under critical conditions, and block the vicious cycle between mother and foetus, eventually increasing survival rate of the foetus.

Vaginal delivery was a better choice for patients with early onset pre eclampsia at 28-32 weeks of gestational age if conditions permitted vaginal delivery.

The Society of Perinatal Obstetricians performed a retrospective study of patients with severe Pre eclampsia and discovered that Caesarean section does not effectively improve perinatal outcome₁₄.However,another study showed that vaginal delivery may increase perinatal mortality compared with elective Caesarean section₁₅. Therefore a suitable delivery mode for patients with early onset severe preeclampsia should be chosen with comprehensive considerations given to improve perinatal survival rate.

CONCLUSION

To conclude , early onset severe preeclampsia is a special type of disease during pregnancy which can lead to serious pregnancy complications including placental abruption and foetal death and eventually lead to maternal and foetal morbidity and mortality. Obstetricians should choose the balance between mother and foetus to decrease the complication rate,

prolong the pregnancy period and improve perinatal outcome.

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