MATERNAL AND PERINATAL OUTCOME IN PREECLAMPSIA AT A TERTIARY CARE CENTRE VIJAYAWADA, ANDHRA PRADESH, INDIA

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ABSTRACT

BACKGROUND

Preeclampsia is one of the important causes of maternal and perinatal mortality in India. This study was conducted to evaluate the maternal and perinatal complications and outcome associated with preeclampsia. The aim of the study is to evaluate the maternal and perinatal outcome of preeclampsia and its complications.

MATERIALS AND METHODS

A descriptive study was conducted on 100 consecutive women admitted with preeclampsia and its complication to Government General Hospital Vijayawada, Andhra Pradesh, from May 2017 to September 2017. The emergency and elective admissions were followed for mode of delivery. Maternal and perinatal outcomes were followed till discharge.

RESULTS

In the present study, 100 consecutive admissions with preeclampsia and its complications at different gestational ages were studied. In total 100 cases 39% were referred from rural areas with a referral slip associated with complications, 57% patients were delivered by abdominal route and 43% were delivered vaginally. Overall, perinatal deaths were 15.

CONCLUSION

Preeclampsia is an important disorder in obstetrics. Early identification and prompt diagnosis and treatment decreases maternal and perinatal mortality and morbidity.

KEYWORDS

Preeclampsia, Hypertension, Mortality.

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BACKGROUND

Preeclampsia is a multisystem disorder characterised by hypertension, new-onset proteinuria which develops after 20 weeks.^{1,2} New-onset thrombocytopenia, impaired liver function, renal insufficiency, pulmonary oedema, visual or cerebral disturbances also can be diagnostic even without proteinuria.² Incidence is high in developing countries, especially low socio-economic status, rural areas.^{3,4} Preeclampsia is reported as leading cause of maternal mortality. It is estimated that 7% maternal mortality is associated with hypertensive disorders, particularly eclampsia. Preeclampsia is associated with 5-fold in case of perinatal mortality.⁵

Aims and Objectives

The aim of present study is to evaluate the maternal and perinatal outcome of preeclampsia in patients admitted at Government General Hospital, Vijayawada- a tertiary care centre in Andhra Pradesh, South India.

MATERIALS AND METHODS

Study Design

A Descriptive Study.

The study was conducted in Government General Hospital, Vijayawada, Andhra Pradesh, a tertiary care centre with 6000 deliveries per annum. The study was conducted in the year 2017 from the month of May. Inclusion criteria was total 100 consecutive cases, patients with preeclampsia. This includes all antenatal ward admission and emergency admissions.

On admission detailed history was taken, general and obstetric examination was done. Investigation was sent. 74% of cases were admitted in labour room; 26% were admitted in the ward. All complications at the time of admission were noted. After the investigations mode of delivery, plan of delivery, maternal and perinatal outcome was studied. All cases were followed till discharge.

RESULTS

The result of present study was tabulated and analysed.

Distribution of Cases	N= 100	%
Booked	49	49%
Unbooked	51	51%
Total	100	100%

Table 1. Distribution of Cases

In total 100 cases of preeclampsia there is almost equal distribution of booked and unbooked cases, 49% booked and 51% unbooked cases; 39 cases had check-ups at outside

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hospital including PHC/ CHC and admitted along with referral slip from rural area. Remaining 12% of patients have check-up at private clinics and came directly to labour room due to financial reasons. This shows that even though 51% of cases were unbooked to GGH Vijayawada, all pregnant women had check-ups at other centres.

Cause of Referral	(n= 39)	%
Severe preeclampsia	13	33.3%
Eclampsia	11	28.2%
IUD (F)	9	23.07%
Abruption	6	15.38%
Total	39	
Total No. of Referral Cases 39		

All the referral cases are from rural areas, remaining 12 cases are admitted to emergency ward with labour pains; 13% of cases were referred in view of preeclampsia, 11% were referred in view of eclampsia, 9% patients were referred in view of intrauterine foetal death; 6% of cases were referred in view of abruption.

In present study, 54% are from rural areas and 46% from urban areas. There is almost equal distribution of patients from rural and urban areas.

n= 100		%
< 20 yrs.	22	22%
20-25 yrs.	60	60%
25-30 yrs.	10	10%
30-35 yrs.	6	6%
>35 yrs.	2	2%
Total	100	
Table 2. Age Wise Distribution of Cases		

	N= 100	%
Primi	60	60%
G ₂ A ₁	7	7%
G ₂ P ₁ L ₁	25	25%
G ₃	5	5%
G ₄	2	2%
G ₅	1	1%
	100	100%
Table 3. Parity Wise Distribution of Cases		

In the present study 60% were primi gravidae, 7% were second gravid with one abortion, 25% were second gravid with previous live child, 5% were gravid 3. About 60% of pregnant women were in the age group of 20 to 25 years; 22% contribution by pregnant women of less than 20 years, 10% of pregnant patients were in the age group of 25 to 30 years. Only 2 patients were above 35 years. This study shows that preeclampsia is common in primi gravidae and young pregnant women.

< 28 weeks	5
28-32 weeks	15
32-36 weeks	15
>36 weeks	63
>40	2
Total	100
Table 4. Period of Gestation at the Time of Admission	

Elective admissions- 26, Emergency-Unbooked- 51, Booked- 23.

In the present study 63% were admitted at 36 weeks, 15% got admitted between 32 - 36 weeks and 15% between 28 - 32 weeks; 74% of admissions were in emergency ward and 26% were admitted in antenatal ward.

Eclampsia	11
Abruption	6
GDM	4
Twins	4
Oligohydramnios	2
Hypothyroid	1
Bronchial asthma	1
Fever	1
Low platelet count	1
Table 5. Maternal Complications at Time of Admission	

In present study 11 patients were admitted with eclampsia and 6 pregnant women were admitted with abruption. These two i.e. eclampsia and abruption contributed to most of the complications i.e. 66%. Because our hospital is a tertiary care centre, we admit complicated cases; 4 patients were joined in view of GDM; 2 patients got admission in view of oligohydramnios; 4 cases of twins, hypothyroid, asthma, fever, low platelet count patients of one case each. Present study shows that in addition to preeclampsia, other medical disorders also can equally complicate the pregnant women.

< 24 hrs.	42
24-72 hrs.	41
3 to 5 days	11
5 to 10 days	1
>10 days	5
Table 6. Admission-Delivery Interval	

In present study, 42% delivered within 24 hours of admission; 41% of pregnant women delivered within 24 to 72 hours. This is because 51% cases are unbooked and admitted in labour room and needed early termination to prevent complications; 11% women delivered between 3 to 5 days, remaining 6 patients were admitted in antenatal ward and put on conservative management. Pregnancy continued till lung maturity. Termination was done after 37 weeks.

Preterm	30
IUGR	12
IUFD	11
Still birth	1
Neonatal death	3
Table 7. Perinatal Complications	

Among the foetal complications, preterm is the emerging problem. In the present study, 30% of patients delivered prematurely. This include both spontaneous and induced labours. Most of the cases needed induction because of preeclampsia. With severe features and other complications, 11 patients were admitted with IUFD and one still birth. Iatrogenic prematurity is an important issue, but it is necessary to save the mother most often.

< 28 weeks	3
Preterm vaginal	19
Preterm emergency LSCS	11
Hysterotomy	2
Normal delivery	17
Outlet forceps	4
Elective LSCS	5
Emergency of LSCS	39
Total	100
Table 8. Mode of Delivery	

In our series, total number of caesarean sections including hysterotomy were 57%; 5% were elective LSCS. Remaining 52% LSCS were done in emergency; 56% of caesarean sections were done under spinal anaesthesia. Only one case of low platelet count was taken up under general anaesthesia. No anaesthesia complications were reported.

Primary caesarean sections contributed to 63% of total. Failed induction and CPD were most important indications for caesarean sections; 33% of primary LSCS were done because of failed induction. CPD contributed to 30.5% of primary LSCS; 19.41% caesarean sections were due to foetal distress. Oligohydramnios and malpresentations contributed to 11% and 5% consecutively.

Perinatal Outcome

Total number of live births 88 (3 neonatal deaths in NICU)
 Macerated still birth 11
 Fresh still birth 1

Take home babies was 85%, perinatal loss of about 15/100. Total 88 live births at the time of delivery. Total 28 babies were admitted in NICU (Table 12). One case of still birth due to meconium aspiration; 3 babies died in NICU after 3 days.

< 500 gms	3
500-1000 gms	6
1 kg to 1.5 kg	11
1.5-2.5 kg	30
2.5-3.5 kg	44
3.5-4.0 kg	3
> 4 kg	3
> 5 kg	1
Table 9. Birth Weights of Babies	

44% of new born weighed between 2.5 and 3.5 kgs.

30% of new born weighed between 1.5 and 2.5 kgs.

20% of babies weighed less than 1 kg.

4 babies weighed more than 4 kg. All cases were GDM patients.

Total 28 babies were admitted in NICU; 14 babies weighed less than 1.5 kg; 10 babies weighed between 1.5 to 2.5 kgs and 4 babies more than 2.5 kg were admitted in NICU. Total 3 babies died in NICU.

RESULTS

In total 100 cases of present study, all mothers were discharged in good condition; 57% caesarean section rate, 15% of babies lost. High perinatal deaths, because the study is from tertiary care hospital. Macerated still birth contributed to 11 cases, 1 fresh still birth and 3 neonatal deaths.

DISCUSSION

Hypertensive disorders are amongst the most common medical complications affecting 6% to 8% of all pregnancies,⁶ approximately 30% of hypertensive cases are due to chronic hypertension. Remaining 70% are caused by gestational hypertension and preeclampsia. Preeclampsia is a disorder unique to human pregnancy.

It is important to understand the disease process. There is high impact of hypertensive disorders and their complications on pregnant population. The disease remains as a major cause of maternal and perinatal mortality and morbidity, not only in India but also worldwide. If preeclampsia was not detected early and treated, it can lead to catastrophic complications.

In the present study, there is almost equal distribution of booked and unbooked cases, 49% and 51% respectively. In unbooked cases 39 cases had check-ups at PHC and CHC and referred with referral slip, because our hospital is a tertiary hospital. All complications of preeclampsia were referred in cases; 60% patients are in the age group of 20 - 25 yrs. This is almost equal to the study of Manjusha, where they quoted the mean age group of 18 - 22 years. In their study, 49.15% of patients belonged to the age group between 18 and 22.⁷

In present study both rural and urban population were equally affected, 54% and 46% respectively. Study from Septa Agarwal and Gagandeep K Walia quoted that on average in India 56.2% rural and 53.8% urban population were affected by preeclampsia.⁸ 33% rural population in Haryana and 87% rural population in Tripura were affected with preeclampsia; 83% patients delivered within 72 hours showing that timely termination save the mother. In present study 39% of complications were referred from rural areas. Severe preeclampsia, eclampsia and abruption were the important maternal complications and these were the major causes for referral. Macerated still birth was another major cause for referral. 33% of cases were referred in view of severe preeclampsia. 28% of referrals were because of eclampsia and 23.07% of referrals were due to abruption.

In our series, 57% were delivered by abdominal route. This is almost similar to other studies (Pacher J and Brixle Lehner). Their study showed that most frequent mode of delivery in preeclampsia is caesarean section.⁹ In study of CD Mushilone and J Moodley, they quoted that elective caesarean section contributed to better perinatal outcome.¹⁰ In our

hospital in induced cases, early decision for caesarean section was taken up if needed. Hence, 57% caesarean section rate. With 55 live babies, 2 macerated still birth babies. In present study total perinatal loss was 15%, which was almost equal to other studies.

CONCLUSION

Preeclampsia is an important disorder in obstetrics. Early identification and referral to tertiary care hospital is necessary to prevent complications and to reduce maternal and perinatal mortality, especially in India. Better training of ASHA workers and staff nurses in early identification of preeclampsia and its complications can minimise the problems in rural areas.

REFERENCES

- [1] Duley L. Pre-eclampsia and the hypertensive disorder of pregnancy. *Br Med Bull* 2003;67:161-76.
- [2] American College of Obstetrics and Gynaecology. Hypertension in pregnancy. Report of the American college of obstetricians and gynecologists' task force on hypertension in pregnancy. *Obstet Gynaecol* 2013;122(5):1122-31.
- [3] Onwuhafua PI, Onwuhafua A, Adze J, et al. Eclampsia in kaduna state of nigeriia--a proposal for a better outcome. *J Med* 2001;10(2):81-4.
- [4] Chattopadhyay S, Das A, Pahari S. Fetometernal outcome in seven preeclampsia women undergoing emergency cesarean section under either general or spinal anesthesia. *Journal of Pregnancy* 2014;2014:10.
- [5] The WHO publication of ICD-10 to deaths during pregnancy child birth and puerperium. 1CD, m.m. 2013.
- [6] Report of national high blood pressure education program working group on high blood pressure in pregnancy. *Am J Obstet Gynecol* 2000;183(1):S1-22.
- [7] Sajith M, Nimbargi V, Modi A, et al. Incidence of pregnancy induced hypertension and prescription pattern of antihypertensive drugs in pregnancy. *Int J Pharm Sci Res* 2014;5(4):163-70.
- [8] Agrawal S, Walia GK. Prevalence and risk factors for pre-eclampsia in Indian women a national cross sectional study. *J Womens Health* 2014;3(6):2-9.
- [9] Pacher J, Brix E, Lehner R. The mode of delivery in patients with preeclampsia at term subjected to elective or emergency caesarean section. *Arch Gynecol Obslet* 2014;289(2):263-7.
- [10] Mashiloane CD, Moodley J. Induction or caesarean section for preterm pre-eclampsia? *J Obstet Gynaecol* 2002;22(4):353-6.