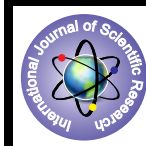


Study of Fetomaternal Outcome in Cases of Preeclampsia.



Medical Science

KEYWORDS :

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ABSTRACT

Preeclampsia, which occurs only in the presence of placenta, continues to be a major cause of maternal and perinatal morbidity and mortality world wide. Its cause remains unknown. The present study was conducted in our institute in 100 obstetric patients admitted with pregnancy induced hypertension from June 2014 to May 2015. All patients admitted with the diagnosis of Preeclampsia were included in the study. AIMS AND OBJECTIVES: To evaluate the importance of specific antenatal care in patients of Preeclampsia, To evaluate the clinical presentation in cases of preeclampsia, To study the distribution pattern of eclampsia amongst variable group of patients and the way of presentation to the hospital in the outcome with modern management of eclampsia, To study the ultimate maternal and fetal outcome. DISCUSSION: Incidence of preeclampsia in present study is 13.8%. 71% of patients were primiparous, thus it is emphasized that Preeclampsia is almost exclusively a disease of nulliparous patients. 20 patients had mild preeclampsia and 80 had severe preeclampsia. 60% were emergency cases and 40% were registered cases. Highest number of were detected at 28-37 weeks of pregnancy. (87%) Out of 20 patients of mild preeclampsia, 11 delivered vaginally and 9 required caesarean section. Out of 80 patients of severe preeclampsia, 45 delivered vaginally and 34 required caesarean section. Most common indication for CS was Abnormal Doppler (due to uteroplacental insufficiency) The most common complication of preeclampsia was eclampsia (36%). Out of 36 cases of eclampsia, 34 cases have responded very well with Pritchard's regimen. Only 2 cases required other anticonvulsant for the control of convulsion. Out of 97 births, 13 were still birth/IUD, 18 were neonatal deaths. So total perinatal deaths were 31.95%. Maternal mortality was 2% in the present study. CONCLUSION: Preeclampsia is not a totally preventable disease but its severity can be decreased by proper antenatal care. Early diagnosis of cases of preeclampsia, recognition of high risk cases, their proper management and selective termination will improve maternal and perinatal outcome. Termination of pregnancy is the primary treatment of severe Preeclampsia and eclampsia. Induction with oxytocics and prostaglandins decreases the duration of labor. Caesarean section was definite place to improve fetomaternal prognosis. Incidence of complications in caesarean section has become very low due to better operative techniques, proper anesthesia and skillful surgeons. The study suggests that MGSO4 therapy is considered as the best therapy and is very effective in preventing and controlling convulsions in cases of severe Preeclampsia and recurrent convulsion.

INTRODUCTION

Gestational hypertension is defined as Blood pressure \geq 140/90 mm Hg for the first time during pregnancy, which returns to normal within 12 weeks postpartum, not associated with proteinuria.

Preeclampsia is defined as Blood pressure \geq 140/90 mmHg after 20 weeks gestation associated with proteinuria \geq 300mg/24 hours or $>$ 1+ dipstick.

Preeclampsia associated with seizures that cannot be attributed to other causes is known as Eclampsia.

Superimposed Preeclampsia on chronic hypertension is new onset proteinuria \geq 300mg/24 hours in hypertensive women with no proteinuria before 20 weeks gestation.

Chronic hypertension is defined as Bp \geq 140/90 mmHg before pregnancy or diagnosed before 20 weeks gestation and persistent after 12 weeks postpartum. 1,2,3

Preeclampsia, which occurs only in the presence of placenta, continues to be a major cause of maternal and perinatal morbidity and mortality world wide. Its cause remains unknown, however few theories have been proposed, such as abnormal trophoblastic invasion of uterine vessels, Immunological intolerance between maternal and fetoplacental tissues, maternal maladaptation to cardiovascular or inflammatory changes of normal pregnancy, Dietary deficiencies, Genetic influence.

Characterized by new onset proteinuria and hypertension after 20 weeks of pregnancy, Preeclampsia can complicate to eclampsia, stroke, renal failure, pulmonary edema, liver failure, HELLP syndrome, coma, blindness PPH coagulopathy, puerperal sepsis. Most common cause of maternal death are intracranial hemor-

rhage and acute renal failure.

The fetuses suffer from IUGR, intrapartum asphyxia, IUD and still birth and most common cause of death are prematurity and fetal asphyxia. 1,2,3

Prevention can be done by identifying and screening out high risk cases for Preeclampsia such as Twins, polyhydramnios, history of vesicular mole, history of Preeclampsia in previous pregnancy. With improved perinatal care and rational approach to management, dramatic decline in maternal mortality and morbidity have been reported.

The only effective treatment is delivery when Preeclampsia develops before 24 weeks, as maternal morbidity is severe and perinatal mortality is $>$ 90% when managed conservatively.

In selected patients with severe Preeclampsia between 24-34 weeks, prolongation of pregnancy is advantageous for fetus.

PREVENTION:

1. Regular antenatal checkup.
2. Rest.
3. High protein diet.
4. Roll over test.
5. Salt restricted diet.
6. Calcium supplementation.
7. Low dose aspirin (60-150 mg/day)
8. Antioxidants (vit C and vit E)

MANAGEMENT:

Early prenatal detection, Antepartum hospital management by detailed examination, analysis for signs of Preeclampsia, routine investigations, Bp monitoring, fetal doppler, DFMC, rest, Salt restriction, urine albumin, maintaining urine output chart.

Lab investigations: serum creatinine, serum uric acid, CBC, LFT with enzymes, serum bilirubin, BT,CT,PT,APTT,IN1R, urea, FDP, D dimer,

Fundus examination: Eye changes are noted in severe cases- constriction of retinal arteries, blurring of optic disc due to edema, Nicking of veins where crossed arterioles.

Color Doppler study: Elevated S/D ratio is associated with fetal growth restriction, absent or reversed diastolic flow is particularly ominous finding indicating extreme downstream resistance, placental dysfunction and imminent fetal death or jeopardy. Absent or reversed end diastolic flow should prompt consideration for delivery. Presence of diastolic notch beyond 16 weeks, high RI (>95th percentile) indicates abnormal uterine artery doppler.

Medical management:

Sedative: Diazepam

Antihypertensive drugs: Alpha methyl dopa, Nifedipine, Labetalol, Hydralazine.

Diuretics: when there is associated pulmonary edema.

Magnesium Sulphate: for prevention of eclampsia as well as the treatment of eclampsia.

Obstetric management: Mild cases respond to medical management alone. If response to treatment is unsatisfactory and if the general condition of the patient worsens, then termination of pregnancy is to be done.

Induction of labor: when termination is non urgent

Caesarean section: when immediate termination is indicated and cervix is not favorable for induction or there is any associated obstetric contraindication for normal labor or an indication for CS. 1,2,3

AIMS AND OBJECTIVES

- To evaluate the importance of specific antenatal care in patients of Preeclampsia.
- To evaluate the clinical presentation in cases of Preeclampsia.
- To study the distribution pattern of eclampsia amongst variable group of patients and the way of presentation to the hospital in the outcome with modern management of eclampsia.
- To study the ultimate maternal and fetal outcome.

MATERIALS AND METHODS

The present study was conducted in our institute in 100 obstetric patients admitted with pregnancy induced hypertension from June 2014 to July 2015. All patients admitted with the diagnosis of Preeclampsia were included in the study.

A detailed history with clinical symptoms and signs, lab investigations, diagnosis, management and neonatal outcome were recorded. Patients were evaluated on the basis of:

- Serial BP monitoring
- Lab investigations
- Fundus examination
- Color Doppler study

TABLES

The results obtained in this study are discussed as under:

1. INCIDENCE OF PREECLAMPSIA:

PRESENT STUDY	DEVI AND UDAY (2001)
13.8%	11.7%

The incidence of preeclampsia in the present study was found to be 13.8% 7

2. PARITY AND PREECLAMPSIA

GRAVIDA	NO OF CASES	PERCENT-AGE (PRESENT STUDY)	KUMAR MAHJI ET AL (2000)
Primipara	71	71%	88.7%
Multipara	29	29%	11.3%

71% of patients were primiparous, thus it is emphasized that Preeclampsia is almost exclusively a disease of nulliparous patients. 6

3. INCIDENCE OF PREECLAMPSIA IN BOOKED AND EMERGENCY CASES:

	MILD		SEVERE	
	No of cases	Percentage	No of cases	Percentage
Booked	15	75%	25	31.25%
Emergency	5	25%	55	68.75%

The above table shows that severe preeclampsia was detected more in Emergency cases (68.75%)

4. GESTATIONAL AGE AT WHICH PATIENTS PRESENTED WITH PREECLAMPSIA.

Gestational age in weeks	Mild		Severe	
	No of cases	Percentage	No of cases	Percentage
<28weeks	1	5%	3	3.75%
28-32 weeks	14	70%	65	81.25%
32-37 weeks	3	5%	5	6.25%
>37 weeks	2	10%	7	8.75%

Highest number of were detected at 28-32 weeks of pregnancy.

5. INCIDENCE OF MODE OF DELIVERY IN RELATION TO SEVERITY OF PREECLAMPSIA

SEVERITY	VAGINAL DELIVERY		LSCS	
	NO OF CASES	PERCENT-AGE	NO OF CASES	PERCENT-AGE
MILD	12	60%	8	40%
SEVERE	47	58.75%	33	41.25%

The above table shows that out of 20 patients of mild Preeclampsia, 12 delivered vaginally and 8 required caesarean section. Out of 80 patients of severe Preeclampsia, 47 delivered vaginally and 33 required caesarean section.

6. INDICATIONS OF CAESAREAN DELIVERY IN PREECLAMPSIA

SR NO	INDICATION	NO OF CASES	PERCENTAGE
1	Abruptio placenta	4	9%
2	Fetal distress	9	21.95%
3	Abnormal Doppler	22	53.64
4	Severe oligohydraamnios	1	2.4%
5	Eclampsia + failed induction	2	4.8%
6	Previous CS	10	24.39%
7	Eclampsia + twin pregnancy	1	2.4%
8	HELLP syndrome	2	4.8%
9	Primi + breech	2	4.8%

Most common indication for CS was abnormal doppler (due to uteroplacental insufficiency)

7. INCIDENCE OF PERINATAL MORTALITY IN PREECLAMPSIA

STUDY	STILLBIRTH/IUD	NEONATAL DEATH	TOTAL PERINATAL DEATH
PRESENT STUDY	13	18	31 (31.95%)
JOPEY ET AL (2004)			42.2%

Out of 97 births, 13 were still birth/IUD, 18 were neonatal deaths. So total perinatal deaths were 31.95% 8

8. INCIDENCE OF COMPLICATION IN SEVERE PREECLAMPSIA

COMPLICATION	PERCENTAGE (PRESENT STUDY)
ECLAMPSIA	36%
ABRUPTIO	5%
HELLP SYNDROME	6%
IUGR	21%

In the present study the most common complication of Preeclampsia was eclampsia (36%)

9. ROLE OF VARIOUS ANTICONVULSANT THERAPY IN CASE OF ECLAMPSIA

	MGSO4 (PRITCHARD REGIMEN)	SODIUM PHENYTOIN
PRESENT STUDY	34 (94.44%)	2 (5.56%)
HANGARGU U.S. (1998)	87.5%	13.5%

The above table shows that out of 36 cases of eclampsia, 34 cases have responded very well with Pritchard's regimen. Only 2 cases required other anticonvulsant for the control of convulsion. 9,10

10. MATERNAL MORTALITY

PRESENT STUDY	MACKAY ET AL
2%	1.8%

Maternal mortality in the present study was found to be 2%. 11

DISCUSSION

- Incidence of Preeclampsia in present study is 13.8%
- 71% of patients were primiparous, thus it is emphasized that Preeclampsia is almost exclusively a disease of nulliparous patients.
- 20 patients had mild Preeclampsia and 80 had severe preeclampsia.
- 60% were emergency cases and 40% were registered cases.
- Highest number of were detected at 28-32 weeks of pregnancy.
- Out of 20 patients of mild preeclampsia, 12 delivered vaginally and 8 required caesarean section. Out of 80 patients of

severe preeclampsia, 47 delivered vaginally and 33 required caesarean section.

- Most common indication for CS was Abnormal Doppler (due to uteroplacental insufficiency)
- The most common complication of preeclampsia was eclampsia (36%), followed by IUGR, HELLP syndrome and abruptio.
- Out of 36 cases of eclampsia, 34 cases have responded very well with Pritchard's regimen. Only 2 cases required other anticonvulsant for the control of convulsion.
- Out of 97 births, 13 were still birth/IUD, 18 were neonatal deaths. So total perinatal deaths were 31.95%

CONCLUSION.

- Preeclampsia is not a totally preventable disease but its severity can be decreased by proper antenatal care.
- Prevention of preeclampsia, by identifying and screening out high risk cases for Preeclampsia such as Twins, polyhydramnios, history of vesicular mole, history of Preeclampsia in previous pregnancy, early diagnosis of cases of preeclampsia, their proper management and selective termination will improve maternal and perinatal outcome.
- Termination of pregnancy is the primary treatment of severe Preeclampsia and eclampsia. Induction with oxytocics and prostaglandins decreases the duration of labor..
- Caesarean section was definite place to improve fetomaternal prognosis. Incidence of complications in caesarean section has become very low due to better operative techniques, proper anesthesia and skillful surgeons.
- The study suggests that MGSO4 therapy is considered as the best therapy and is very effective in preventing and controlling convulsions in cases of severe preeclampsia and recurrent convulsion.

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