

ECLAMPSIA; FREQUENCY & MORBIDITY

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ABSTRACT... Objectives: The purpose of our study was to find the outcome, frequency, maternal morbidity and perinatal outcome due to eclampsia in our set up. Design: Descriptive study. **Place and Duration of Study:** This study was conducted in the department of obstetrics and gynae from 1st January 2007 to 1st January 2008, in Gynecology & obstetric department: unit 1 of Liaquat University hospital Hyderabad. **Patients and Methods:** Total 39 patient's who had eclampsia were included in this study while other obstetric patient's who had no eclampsia were excluded from the study. After an informed consent information was recorded on predesigned proforma regarding maternal age, parity, duration of pregnancy, B.P at admission, mode of delivery, maternal morbidity and perinatal outcome. Results were analyzed through computer software programme SPSS version 11 and percentages were used to describe the data. **Results:** Total 1415 deliveries were conducted during the study period. Out of these, 39 patients had eclampsia. So the frequency of eclampsia was 2.7%. Majority of patient's i.e. 15(38.4%) were less than 20 years .Out of 39 patient's, 32(82.0%) patient's were primigravida while 4(10.2%) were multigravida and 3(7.6%) patient's were grandmultigravida. Majority of the patient's i.e. 28(71.7%) were unbooked. 18(46.1%) patient's had fit during antenatal period, 14(35.8%) patient's had fit in postpartum period one case with eclampsia was received on 6th postnatal day. Serious maternal morbidity was pulmonary edema seen in 6(15.3%) HELLP Syndrome in 3 (7.6%) and acute renal failure in 4(10.2%) patient's. Regarding perinatal outcome, 28(71.7%) babies were born alive. out of these 11(39.2%) were died in early neonatal period.8 (20.5%) babies born, were still birth while 3(7.6%) were macerated IUD. **Conclusion:** In our study majority of patient's who developed eclampsia were young and primigravida. Major maternal morbidity was pulmonary edema, chest infection and acute renal failure. Perinatal mortality was also high.

Key words: Eclampsia, pulmonary edema, perinatal outcome.

INTRODUCTION

Eclampsia is defined as occurrence of convulsions associated with sign and symptoms of pregnancy (hypertension and proteinuria) during pregnancy, labour, or within seven days of delivery and not caused by epilepsy or other convulsive disorders. Eclampsia remains a leading cause of maternal and perinatal morbidity and mortality¹.

Eclampsia is an unpredictable, multiorgan disorder unique to human pregnancies. Incidence varies widely

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from 1 in 100 to 1 in 2000 pregnancies. Although uncommon in developed countries, it is still a major cause of maternal morbidity and mortality worldwide and accounts for 5000 maternal deaths/year internationally². Incidence of eclampsia in Pakistan is 120/10,000 deliveries³. The maternal mortality ratio of Pakistan has been estimated to be 905 per 100,000 maternities⁴. Hypertensive disorders of pregnancy were ranked third important cause of maternal mortality in a nation wide study in Pakistan, by Jaffrey SN⁵.

Eclampsia is preceded by alarming sign and symptoms of pregnancy induced hypertension so that early detection of these signs and symptoms by good antenatal care and initiation of intensive therapy will prevent occurrence of eclampsia. But, if eclampsia occurs than Delivery of the fetus with elimination of all placental and residual tissue is the only known definitive treatment of eclampsia. vaginal delivery is the first option but cesarean section is done if the state of the patient is worsening and delivery is not imminent in next 6-8 hours. After delivery management should be aimed at maintaining blood pressure control and carefully monitoring fluid balance. If convulsions occur, anticonvulsant therapy can be added for 24 hours after last fit. Antihypertensive therapy should be reduced after delivery depending on the blood pressure. There may be a significant drop within the first 24 hours with a rise after 24 hours. Antihypertensive drugs may be necessary for some weeks after delivery.

Convulsions may occur ante partum (38%), intrapartum (18%) or postpartum (44%). Primigravida are at higher risk of eclampsia and that ante partum convulsions are most dangerous than those beginning after delivery.

Incidence of eclampsia varies inversely with the quality of antenatal care. Inadequate antenatal care increases the incidence of eclampsia⁶. The steep decline in fatality rate in developed countries is mainly due to better antenatal care, effective treatment of pregnancy induced hypertension and early intervention if morbid condition develops⁷.

The purpose of our study was to find the outcome,

frequency, maternal morbidity and perinatal outcome due to eclampsia in our set up.

MATERIAL AND METHODS

This prospective descriptive study was conducted in the department of obs and gynae from 1st January 2007 to 1st January 2008, in Gynecology & obstetric department: unit of Liaquat university hospital Hyderabad.

Total 1415 patients were admitted in obstetric unit. Out of these 39 patient's had eclampsia and were included in this study while other obstetric patient's who had no eclampsia were excluded from the study.

All the patients included in the study were evaluated by detailed history, physical examination and necessary routine investigations like blood group, complete blood count, platelet count, coagulation profile; renal function test, serum electrolytes, uric acid, blood glucose, fundoscopy and urine for protein analysis were carried out.

The diagnosis of eclampsia was made in women who had convulsions associated with signs of preeclampsia (BP>140/90 mmHg, Proteinuria >300mg/L, 24 hours or +1 on urine dipstick or boiling method) during pregnancy, labour or with in 7 days of delivery and not caused by epilepsy or other convulsive disorders.

Immediate management included passing an airway, control of fit and blood pressure, intake output record and termination of pregnancy in antenatal patients. Patients were continuously monitored in eclampsia room till they were stable. Seizures were prevented by giving MgSO₄ / Diazepam infusion. Blood pressure was controlled by inj. Hydralazine or nifedipine. All the patients were followed till 6 weeks postpartum.

After an informed consent information was recorded on predesigned proforma regarding maternal age, parity, duration of pregnancy, B.P at admission, mode of delivery, maternal morbidity and perinatal outcome. Results were analyzed through computer software programme SPSS version 11 and percentages were

used to describe the data.

RESULTS

Total 1415 deliveries were conducted during the study period. Out of these, 39 patients had eclampsia. So the frequency of eclampsia was 2.7%.

Majority of patient's i.e. 15(38.4%) were less than 20 years, 10(25.6%) patient's were between 31-40 years and 8(20.5%) patient's were of more than 40 years.(Table I).

Table-I. Sociodemographic data (n=39)		
1. Age	No	%age
<20	15	38.4
20-30	06	15.3
31-40	10	25.6
>40	08	20.5
2. Gravida		
Primigravida	32	82.0
Multigravida	04	10.2
Grand Multigravida	03	7.6
3. Socioeconomical condition		
Poor	26	66.6
Middle	10	25.6
Upper	03	7.6
4. Education		
No: education	28	71.7
Primary	07	17.9
Secondary	03	0.9
Graduate	01	2.5

Out of 39 patient's, 32(82.0%) patient's were

primigravida while 4(10.2%) were multigravida and 3(7.6%) patient's were grandmultigravida. (Table I).

Majority of the patient's i.e. 28(71.7%) were unbooked while 11(28.2%) were booked.26 (66.6%) patient's belonged to poor class,10(25.6%) patient's belonged to middle class while 3(7.6%) patient's belonged to upper class.(Table I).

Out of 39 patient's, majority i.e. 18(46.1%) patient's had fit during antenatal period, 14(35.8%) patient's had fit in postpartum period one case with eclampsia was received on 6th postnatal day.

Blood pressure was more than 180/120 at admission in 28.2% patients. Majority of patient's were delivered by vaginal delivery after giving emergency treatment, 11(28.2%) patient's were delivered spontaneously,6 (15.53%) patient's were delivered by forceps and 4(10.2%) were delivered by vacuum. In 18(46.15%) patient's pregnancy was terminated by emergency cesarean section.

Serious maternal morbidity was pulmonary edema seen in 6(15.3%) HELLP Syndrome in 3 (7.6%) and acute renal failure in 4(10.2%) patient's (Table II).

Regarding perinatal outcome, 28(71.7%) babies were born alive. out of these 11(39.2%) were died in early neonatal period.8 (20.5%) babies born, were still birth while 3(7.6%) were macerated IUD.

Table-II. Maternal & perinatal outcome (n=30)		
Maternal morbidity	No.	%age
1. Acute renal shut down	04	10.2
2. Chest infection	08	20.5

3. Urinary tract infection	06	15.3
4. DIC	02	5.1%
5. CVA	01	2.5
6. Pulmonary edema	06	15.3
7. HELLP	03	7.6
8. Hb<8 gm/dl	06	15.3
9. Tongue bite	03	7.6
10. Temporary blindness	02	5.1
Perinatal morbidity		
1. Born alive	28	71.7
2. Still birth	08	20.5
3. Early neonatal death	11	39.2
4. Macerated IUD	03	7.6

DISCUSSION

Eclampsia is a serious obstetrical and medical emergency and carries a high risk of maternal and perinatal morbidity and mortality.

This study showed that frequency of eclampsia in our hospital is 2.7% which is considerably higher than other countries like USA 0.028%⁸, Finland 0.024%⁹, Nigeria 1.32%¹⁰ and UK 0.072%¹¹.

Frequency of eclampsia in different tertiary care hospitals of Pakistan is found to be 2% in civil hospital Karachi¹², 1.8% in Nishter hospital¹³ and 1.7% in Faisalabad¹⁴.

The high frequency observed in this study is indicative of the poverty, illiteracy and lack of awareness about the health measures and health facilities.

Majority of women were unbooked and don't believe in antenatal care and consider birth a natural process. They bring their ladies to the hospital only when they are seriously ill and insist on vaginal delivery. Moreover, this hospital is tertiary referral center, which receives complicated cases from the remote areas, and most

patients usually come in moribund state.

This frequency of eclampsia is higher in primigravida, with 82% in our set up being primigravida. The risk is further aggravated if primigravida is at extremes of her reproductive age. Same is mentioned in other studies that eclampsia is common at or below 20 years of age^{15,16}. Another study done by Chesley in 1985, reported that eclampsia most commonly affects women at the extremes of reproductive age, that is teenagers or older than 35 years. In our study majority i.e. 38.4% of women were of less than 20 years.

Eclampsia occurs mostly in the antenatal period as seen in our study (46.1%). We received most of the cases of postnatal eclampsia with in the first 48 hours but one proven case was received on 6th postnatal day. Occurrence after the first 5 days is exceedingly rare, but Michael (1985)¹⁷ has reported one such case on the 6th postnatal day. Feiz M.W and Barnes et al¹⁸ reported one proven case of eclampsia on the 16th postnatal day.

Eclampsia is a disease of poor with little education and poor access to medical facilities¹⁹. In our study majority 66.6% patient's belonged to poor class and 71.7% were unbooked. Infant 70% of Pakistani women, mostly from rural areas, do not receive antenatal care and it has been documented through the available tertiary care data that most of the medical problems were either preventable or treatable if managed in time²⁰. In our study 71.7% women were unbooked, while in study conducted by Sheraz S et al 92% patients were unbooked²¹.

Eclampsia is associated with significant maternal morbidity. Acute life threatening complications can arise from functional derangement of multiple organ systems. Some of these are iatrogenic (Pulmonary edema or aspiration) where as others are unavoidable (retinal detachment)²² sudden increases in blood pressure to sever ranges (diastolic >120mmHg) are associated with increased maternal morbidity (short and long term). Such sever episodes of hypertension can result in the development of intracerebral hemorrhage, hypertensive encephalopathy, acute renal failure, congestive cardiac failure, abruption placenta with resultant DIC²³.

In our study, 28.2% had blood pressure more than 170/120mmHg at admission. This group of patient's developed most complications.

Major complications included pulmonary edema in 15.3% of patient's, acute renal failure in 10.2% and HELLP Syndrome i.e. 7.6% patients.

Serious morbidity may greatly influence mortality than convulsions do. Cerebral lesions as a result of eclampsia leave neurological sequel among patients less often and prove lethal more often. In a maternal morbidity and mortality report from UK, 50% of maternal deaths associated with hypertensive disease of pregnancy were due to pulmonary causes²⁴. Delivery of baby is a crone stone in the management of eclampsia. Increasing cesarean section rate is associated with fall in maternal mortality and morbidity. Unless vaginal delivery is imminent, cesarean section should be the route of delivery after the patient is stabilized. By taking extra care post cesarean morbidity can be reduced to minimal. An early delivery because cesarean section rather than waiting for a long time for vaginal delivery reduces convulsion delivery interval and therefore appears to give good fetal outcome as well. In our study 46.15% patients were delivered by cesarean section. The perinatal mortality associated with eclampsia is 30% even in industrialized countries²⁵. The perinatal mortality is particularly higher in the ante partum eclampsia as compared to intrapartum and postpartum eclampsia. In our study perinatal mortality was seen in 67.3% patients. Cerebral anoxia and metabolic insult as occurred in eclampsia, along with prematurity and IUGR. Prevention of eclampsia is a challenge. Other than early detection of preeclampsia, there are no reliable tests or symptoms for predicting the development of eclampsia²⁶.

CONCLUSIONS AND RECOMMENDATIONS

In our study majority of patient's who developed

eclampsia were young and primigravida. Major maternal morbidity was pulmonary edema, chest infection and acute renal failure. perinatal mortality was also high.

Eclampsia is an important case of maternal and perinatal morbidity. To reduce its incidence and complications, there is a dire need to improve antenatal care at community level, enhance emergency obstetric care and a fast referral system. There is a need to strengthen community health care and to create awareness regarding such catastrophic emergencies.

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