

THE PREVALENCE OF ECLAMPSIA AND ITS COMPLICATIONS IN PATIENTS REPORTING TO MILITARY HOSPITAL RAWALPINDI

Tabinda Arshad

P.A.F Hospital Faisal, Karachi

ABSTRACT

Objective: To find out the prevalence and complications of eclampsia in the patients reporting to MH Rawalpindi.

Design: A descriptive study.

Place and Duration of Study: Study was conducted in MH Rawalpindi from June 1997 to June 1999.

Subject and Methods: Data of all the pregnant ladies who were admitted in this period with blood pressure equal to or more than 140/100mmHg and urine albumin equal to or more than + 1 and whose pregnancy outcome was known.

Results: Twelve patients reported with eclampsia and 19 patients had to be delivered because of impending eclampsia. So we included 31 patients in our study to find out the rate of maternal and the perinatal morbidity and mortality in our set up. About 42% of the patients in our series were primigravida. 50% had developed eclampsia and 36.8% had to be delivered because of imminent eclampsia. There was no maternal mortality due to this condition in our study period. Though some patients had some morbid effects of the disease but they were curable. The pregnancy outcome was influenced by the gestational age at the time of delivery. In 80% of cases the gestational age was more than 30 weeks. The perinatal mortality rate was found to be 30.7%. Over all, the incidence of multiple gestations in the study was 9.6%.

Conclusion: Proper screening and management of patients with pre-eclampsia at the community and basic health care level can prevent the untoward complications of this disease in both the mother and the baby born.

Keywords: Eclampsia, impending eclampsia, maternal morbidity, mortality, perinatal mortality

INTRODUCTION

The pathogenesis of pre-eclampsia remains incompletely understood despite years of research. Although hypertension is a hallmark of pre-eclampsia, it is neither the cause of pre-eclampsia, nor the earlier

clinical syndrome potentially involving all the organ systems. Fits can occur at any stage during the pregnancy and the puerperium. Eclamptic fits are considered to occur in a narrower time frame between 20 weeks gestation and 10 days postpartum.

A fit which does not appear to be of epileptic origin, nor appears to be carried through metabolic or other known causes, should be classified as an eclamptic fit.

Correspondence: Sqn Ldr Tabinda Arshad, PAF Hospital Faisal, Karachi.

symptom. Pre-eclampsia is clearly a complex

Eclampsia is the occurrence of convulsions superimposed on pre-eclampsia. It is not an inevitable progression from pre-eclampsia. The risk of eclampsia in women with pre-eclampsia is probably around 1/2000.

Eclampsia is impending when the following are present:

- Headache- usually generalized but may be localized to the occipital and occasionally to the frontal area. It is persistent and often severe.
- Visual Disturbance-blurring of vision and photophobia are Important symptoms.
- Restlessness and agitation.
- Epigastric discomfort nausea and vomiting.
- Oliguria.
- Increase laboratory evidence of disseminated intravascular Coagulation.

In modern obstetrics, hypertensive disorders of pregnancy are understood to encompass a clinical spectrum of abnormalities with multi-organ dysfunction. Finally, without an organized plan in the hands of experienced health care teams eclampsia is still a deadly disease. The presentation and progression of the condition is so varied that it is sometimes difficult to imagine it as one disease. The one thing that is agreed by all, is that a placenta is required for the development and maintenance of pre-eclampsia and delivery, with removal of the placenta remains the ultimate cure [1].

The classic presentation symptoms in pre-eclampsia are hypertension, oedema and proteinuria. The classic hepatic lesion associated with severe pre-eclampsia is periportal or focal parenchymal necrosis and Periportal Lake haemorrhages. The cause of convulsion is unclear. Cerebral and neuronal irritation are the possible direct stimuli to

convulsion. There is good evidence that early aggressive use of antihypertensive therapy is beneficial to both mother and baby. No one therapy can control all patients and increasing doses of drugs and combination therapy are often required. Care should be taken not to reduce the BP too quickly. If convulsions have occurred, anti-convulsants are required. A large multicentre study has shown that magnesium sulphate is superior to both phenytoin and diazepam [2].

Delivery is the ultimate cure of pre-eclampsia. The timing of delivery affects the outcome for both mother and baby. After delivery, management should be aimed at maintaining BP control and carefully monitoring the fluid balance. If convulsions occur, anticonvulsant therapy can be added. The majority of postnatal convulsions occur within the first 24hrs. So anticonvulsant therapy is usually continued for 48hrs post delivery. If the patient is well, especially if prophylactic anticonvulsant is being used in the absence of any convulsions, this therapy can be stopped within 24 hrs. Anti-hypertensive therapy should be reduced after delivery depending on the BP. There may be a significant drop within the first 24hrs with a rise again after 24hrs. Anti-hypertensive drugs may be necessary for some weeks after delivery.

PURPOSE OF STUDY

- To find prevalence and complications of eclampsia in patients reporting to MH Rawalpindi.
- Time and mode of delivery and perinatal outcome.

MATERIAL AND METHODS

It was a descriptive study. Statistical data concerning cases of eclampsia and imminent eclampsia reporting to MH Rawalpindi over a two years period of time was collected and analysed in terms of maternal age, parity, duration of pregnancy, mode of delivery and outcome of pregnancy.

The study was conducted in MH Rawalpindi over a 2 years period from June 1997 to June 1999. It is fitting here to mention that this conservative method has now been replaced with improvised techniques at military hospital. Total numbers of deliveries conducted in this period in MH was 12000. Total 108 pregnant patients were admitted in this period in the maternity ward with a B.P of $\geq 140/100$ mmHg and urine albumin $\geq +1.97$ patients were included in the study as the rest were lost to follow up.

Inclusion Criteria

There was that all the pregnant patients with B.P of $\geq 140/100$ mmHg and urine albumin $\geq +1$ whose pregnancy outcome was known were included in the study.

Exclusion Criteria

All the patients with above criteria, whose pregnancy outcome was not known.

STATISTICAL ANALYSIS

Data had been entered and analyzed using SPSS ver-10.0. Percentages were used to describe the data.

RESULTS

Out of these 97 patients, 66 had P.I.H, 19 had impending eclampsia, and 12 had eclampsia. The incidence of eclampsia in this study period was 1 in 1000 and percentage was 0.1%. Incidence of impending eclampsia was 1 in 630. Percentage was 0.16%. All the patients with eclampsia were non booked.

Out of 19 patients with impending eclampsia, booked patients were 4 (21.1%), and 15 (78.9%) patients were unbooked. 05 (42%) Patients had intrapartum eclampsia, 3 (25%) had antepartum eclampsia and 4 (33%) had post partum eclampsia with the history of home delivery (table-1).

In our study, half the patients with eclampsia were primiparous and half were

multigravida (table-2), with equal distribution in both the antepartum plus intrapartum, and post partum period (table-3).

In the patients with Postpartum eclampsia, the 2 primidrvidas were aged 18 year and 28 years and 2 multi gravidas were 25 years and 30 years of age. One primigravida had a twin IUD at home at 8 months of gestational age. The 4 primigravidas with intra and antepartum eclampsia were aged between 19 years- 30 year. The multigravidas with similar conditions were aged between 25 years - 30 years.

In patients with eclampsia who had reported to hospital before delivery of the baby. 3 patients underwent L.S.C.S i.e., 37.5%. 2 patients had forceps vaginal delivery i.e., 25% and 3 patients delivered spontaneously i.e., 37.5 % (table-4).

All the patients with postpartum eclampsia had home delivery. Total babies born to patients with eclampsia were 13 (including one set of twin I.U.D. delivered at home). Perinatal mortality in eclampsia was 4 out of 13 (twin I.U.D. + 2 N.N.D.) i.e. 30.77%. Preterm babies were 6 i.e. 46.15%, full term babies with good apgar score were 3 i.e. 23.08% (table-5).

Nineteen patients had impending eclampsia, out of these two went into spontaneous labour. 04 were induced (in 02 Patients T.O.P. was done due to B.P $\geq 160/120$ mm of Hg and urine albumin +++), and impending IUD). 1 patient had forceps vaginal delivery. One failed induction had to be delivered by L.S.C.S. In all, 14 L.S.C.S. were done. One was elective, 13 were emergency inclusive of one due to failed induction. 07 patients were primiparous aged between 19-28 years. 01 patient had twin pregnancy. 12 patients were multigravida, age ranging between 20-31 years. 01 patient in this group had twin pregnancy with a previous history of twin pregnancy (table-6).

Eight patients with impending eclampsia had delivery at or after 34 weeks of gestation. 11 patients had delivery before 34 weeks of gestation. Total babies born to 19 patients with impending eclampsia were 20 (one set of twin). Alive:13 Perinatal deaths: 7(5 IUD + 2NND) (table-7).

Out of 97 patients included in our study, 93 patients had hospital delivery. Total babies born alive were 88 including 02 sets of twins. In 66 patients with P.I.H. who neither had eclampsia or impending eclampsia, 19 underwent LSCS; the rest delivered vaginally.

Two patients with impending eclampsia gave history of P.I.H. in previous pregnancies. The rest had no history suggestive of pre-eclampsia in previous pregnancy. 02 primigravidas who were booked cases were found to have hypertension plus albuminuria in this pregnancy; therefore they were admitted for evaluation and treatment. 05 patients had family history of hypertension in first degree relatives. Fortunately no patients in our study period died of eclampsia or related conditions though there was one maternal death 01 month after this study period where the patient had postpartum eclampsia after delivery at home. She was brought to the hospital in a moribund state and died soon after. Again there was no instance of HELLP syndrome in this period. There were 02 cases of puerperal psychosis. One patient had postpartum eclampsia after delivery of twin IUD's at home. She was referred for antipsychotic treatment after recovery from eclampsia.

Tongue was bitten in 02 cases of eclampsia, though it did not require any surgical intervention. One patient had developed burst abdomen after L.S.C.S. for IUD with transverse lie and eclampsia. There were no cases of DIC or abruptio placentae. No cases of renal compromise were seen either. 02 patients had respiratory tract infection. Both had received general anaesthesia for emergency L.S.C.S. the infection subsided after appropriate

treatment. No patient with impending eclampsia had any significant morbidity as they were diagnosed and managed in time.

For control of eclamptic fits we used I/V diazepam both as slow bolus and in infusion form. Injection methyldopa and tridil infusions were used as antihypertensive. Nifedipine sublingually was used when diastolic B.P was ≥ 110 mmHg. Blood cross-match was always done. The mode of induction in patients who were induced for labour was by placing tab. Prostin E2 in posterior vaginal fornix. Laboratory investigations carried out were, complete blood count, urine R.E., coagulation profile, serum LFT's, serum urea, electrolytes, serum creatinine, and random blood sugar. Chest X-ray was done in those cases where there was some respiratory complications as the facility for portable X-ray was not available.

DISCUSSION

The prevalence of eclampsia as evaluated in this study is 1/1000 or 0.1%. The prevalence is not that high as compared to other civil medical institutes, because MH being a military hospital mostly attends entitled patients for whom the medical facilities are free. Therefore most of the women have regular antenatal checkups. It is usually those pregnant ladies who live in far flung areas with poor transport facilities and whose husbands are not living with them due to their job requirement; whose antenatal check-up is not done. If we compare this incidence with other big city hospital in Pakistan, then the incidence of patients with eclampsia is much higher over there.

A study from civil hospital in Karachi revealed the incidence as 20/1000 [3]. This figure was gathered over a 5 years period. The incidence in Lahore was 7.5/1000 and in Multan it was 18/1000 [4].

Bashir et al reported a prevalence of eclampsia of 1.2% during 1991-93 in Faisalabad [5]. The incidence in other

developing countries like India is 2.2/1000 [6]. In Zimbabwe, South Africa, the incidence is much higher reaching 114/1000. In comparison, the incidence in a developed country like U.K is 1/2000. This is due to a high literacy rate, availability of better medical facilities and good antenatal care plus improved general health.

The study revealed that all the patients with eclampsia were unbooked and only 21.1% of the patients with impending eclampsia were booked. Although few patients have history of some antenatal check-up once or twice by a local general practitioner or a dai, but no record was available. This shows the lack of interest on the part of the patient/their families, as well as the local health care providers. The patients who suffered from eclampsia and impending eclampsia had a very low literacy rate and belonged to low socio-economic group.

Age wise, all the patients who developed eclampsia in our observation were between 18-30 years; the median age being 24 years. Our study revealed that 50% of the patients who developed eclampsia were primigravida, and 36.8% of patients were primigravidas who had impending eclampsia. Eighty percent of the patients had gestational age of more than 30 weeks.

Perinatal outcome is strongly influenced by gestational age. One of the causes of increased prenatal morbidity and mortality is pre-maturity. The gestational age beyond 30 weeks gives a better perinatal outcome. In our series the perinatal mortality was 30.7% while in the U.K it is 17.7%.

Majority of the seizures occur in either ante or intrapartum period. In this study 67% of eclamptic fits occurred in ante and intrapartum period; while the remaining 33% occurred in post-partum period.

We all know that eclampsia is a disease of excessive placental tissue; the incidence increases in multiple pregnancies and it may be particularly hazardous to the babies of

Table-1: Ratio of fits in antepartum and intrapartum period.

Onset of eclampsia fits	Patients	Percentage
Antepartum	3	25%
Intrapartum	5	42%

Table-2: Ratio of primi and multigravida.

Parity	No. of Patients	Percentage
Primigravida	6	50%
Multigravida	6	50%
Total	12	100%

Table-3: Distribution of gravidas.

Parity	Antepartum + Intrapartum Eclampsia	Postpartum eclampsia
Primigravida	4	2
Multigravida	4	2

Table-4: Mode of delivery.

Mode of delivery	No of Patients	Percentage
L.S.C.S	3	37.5%
Forceps	2	25%
S.V.D	3	37.5%
Total	8	100%

Table-5: Outcome of delivery.

Out comes	Babies born	Percentage
Perinatal Mortality	4	30.77%
Pre-term babies shifted to N.I.C.U	6	46.15%
Full-term babies with good A/S	3	23.08%
Total	13	100%

Table-6: Parity of patients.

Parity	Number of Patients	Percentage
Primigravida	7	31.06%
Multigravida	12	68.94%
Total	19	100%

Table-7: Status of delivered babies.

Outcome	No. of Babies born	Percentage
Alive babies	13	61.91%
Perinatal Mortality	7	38.09%
Total	20	100%

02 preterm babies had associated IUGR as well.

multiple gestations. In our study one patient with twin I.U.D.s had developed eclampsia. 1 patient with impending eclampsia had twin pregnancy as well. Both these patients were delivered by L.S.C.S.

There was no maternal mortality due to eclampsia in our study period, though maternal deaths due to this malady occurred after the study was concluded. This may underestimate the true maternal mortality rate. In a study carried out in Multan, the maternal mortality because of eclampsia was 11%. A maternal mortality rate was found to be 8.35% to 10.3% over 2 years period of study in Faisalabad. Another study in Karachi reported eclamptic mortality to be 9% over a 5 years period. Decision of delivery is the corner stone for treatment of eclampsia, and it should be done very carefully to have an alive mother and baby. Vaginal delivery is the preferred mode of delivery but it should not be achieved at the expense of mother or baby. Caesarean section may be considered earlier in a stabilized patient as compared to a prolonged normal labour.

After delivery, the patient should be monitored very carefully for at least 24-48 hours, as postpartum eclampsia was seen in 33% of our patients within 24 hrs of delivery of the baby.

CONCLUSION

Pre- eclampsia and eclampsia remain one of the leading causes of maternal morbidity and mortality worldwide. They also contribute to perinatal morbidity and mortality as well. Multiple strategies have been proposed for the prevention of pre-eclampsia, with mixed results. Likewise, different strategies for the management of pre-eclampsia have been proposed, also with

mixed results. While the prevention of pre-eclampsia remains unachievable, meticulous medical management of mother and foetus will contribute to an overall lowering of pre-eclampsia's contribution to perinatal and maternal morbidity and mortality. For achieving these goals we have to have public awareness of about the severity of the disease and we must educate our public and health care providers about the importance of detecting this condition in any stage of pregnancy and for proper and early referral to a tertiary care centre where the facilities for neonatal care are also available.

REFERENCES

1. Roberts JM, Redman CWG. Pre-eclampsia - more than pregnancy induced hypertension. **Lancet 1993; 341: 1447-51.**
2. Duley L, Carroli G, Belizen J et al. which anticonvulsant for women with eclampsia evidence from the collaborative eclampsia trial. **Lancet 1995; 345: 1455-63.**
3. Hashmi HA. An analysis of maternal deaths due to hypertensive disorders of pregnancy at Civil hospital, Karachi. In Zaidi S(ED). Maternal and perinatal health in Pakistan. The proceedings of a Workshop; 1993 Jan 7-8; Peshawar: **TWEL Publishers Karachi 1993; 50-60.**
4. Naseer-Ud Din, Ata Ullah Khan, Nudrat Illahi. Perinatal and maternal outcome of eclamptic patients admitted in Nishtar Hospital, Multan. **J Coll Phys Surg 2000; 261-263.**
5. Bashir A, Cheema MA, Mustansar M et al. maternal mortality 1991: Results from a **Survey in Faisalabad Specialist 1992; 9: 47-52.**
6. Das B, Sah S, Sinha AK, et al. maternal mortality. **J Ind Med Assoc 1990; 88: 249-250.**