

PRESENTATION AND OUTCOME OF ECLAMPSIA AT A NIGERIAN UNIVERSITY HOSPITAL

A.O. Olatunji, A.O. Sule-Odu

*Department of Obstetrics and Gynaecology, Obafemi Awolowo College of Health Sciences, Olabisi
Onabanjo University P.M.B. 2001 Sagamu, Nigeria*

ABSTRACT

Objective: To review the presentation of eclampsia and its outcome on the mother and babies in our environment with a view to suggesting strategies for improvement.

Methods: A retrospective study at 93 cases of eclampsia treated at Olabisi Onabanjo University Teaching Hospital Sagamu was undertaken. Data was collected by scrutinizing the case files collected from the medical records library after collecting their numbers from the labour ward register.

Results: There were 93 cases of eclampsia out of a total delivery of 5423 giving an incidence of 1.7 percent. Almost all the patients (96.8%) were unbooked. Antepartum eclampsia constituted 93.5 percent of cases. Nulliparous teenagers were the most commonly affected with a relative risk of 25 when compared with multips. Caesarean delivery was more common than vaginal delivery in the ratio 6:4. There were 19 maternal deaths, a case fatality rate of 20.0 percent and this was not related to the mode of delivery. (RR 1- 1.1). The perinatal mortality was significantly less with caesarean delivery (RR 1:0.38).

Conclusion: Eclampsia, occurring mainly in unbooked patients is still one of the major causes of maternal mortality and good antenatal care will significantly reduce the incidence and improve the outcome especially in teenage nullipara who are mostly susceptible.

Key words: eclampsia, outcome, Nigeria

(Accepted 20 March 2006)

INTRODUCTION

Worldwide, eclampsia remains one of the major causes of maternal and perinatal mortalities¹⁻⁵. While the incidence and case fatality rates have declined in the developed countries with an estimated incidence of 1 in 2000 (0.05%) and case fatality rates of less than 1 per cent, in the developing countries, the hospital incidences vary between 0.2 and 1.2 per cent, that is four to twenty times that of the developed world with a case fatality rate of about 20.0 per cent^{5,6}. It is still a major contributor to the uncomfortably high maternal mortality of 100-200 times that of the developed countries and contributing about 10 per cent of all maternal deaths¹.

Almost invariably, eclampsia is preceded by preeclampsia of varying degrees of severity and duration which would be detected during antenatal care, treated and so prevent progression to eclampsia. The high incidence recorded in the developing

countries had been attributed to poor antenatal supervision of our pregnant women and delivery in circumstance such that referral of eclamptics during labour is made difficult by lack of adequate transport system⁶⁷.

Rational for minimizing or preventing mortalities from eclampsia will depend on information about its presentation and the specific causes of mortality. This paper aims at reviewing how eclampsia presents in our environment, its outcome for the mothers and babies and use the information obtained to suggest strategies for improvement.

MATERIALS AND METHODS

Olabisi Onabanjo University Teaching Hospital, Sagamu Nigeria is a tertiary hospital serving as referral centre to clinics, hospitals, maternity homes and traditional birth places in all the Local Government Areas of Ijebu and Remo in Ogun State extending to Lagos State. The hospital does not discriminate among the referral, that is, it admits all referrals in any condition. Eclamptics are usually admitted directly to the labour ward.

The hospital numbers of all eclamptic patients that presented and were managed in the labour ward between January 1988 and December 1997 were extracted from the Labour Ward Register. Their case-files were retrieved from the hospitals Medical Records Library. Each case file was scrutinized as regards the age, parity, type of eclampsia, gestational age at presentation, booking status, mode of delivery, outcome of the baby and mother. The total delivery for the period, the number of patients in each parity, the maternal and perinatal deaths in relation to the mode of delivery and the maternal complications were recorded.

All the patients had diazepam as the anticonvulsant, and hydralazine as antihypertensive where necessary.

Necessary statistical analysis were carried out to highlight the significance of the data presented. Level of significance was set as $P < 0.05$.

RESULTS

During the 10 year study period, there was 5423 deliveries and 93 cases of eclampsia for an incidence of 1 in 58 deliveries or 1.7 per cent. Out of these, there were 759 deliveries and 74 cases of eclampsia among nulliparous patients, while in multiparous patients there were 4664 deliveries and 19 cases of eclampsia. Unbooked patient constituted majority of the eclamptics with 90 of the 93 (96.8%) being referred from the various health institutions in the state and its environ. Fifty six (60.2%) were delivered by Caesarean Section while 37 (39.8%) delivered vaginally.

Table 1 shows the age and parity distribution of the eclamptic cases. The table shows that nulliparous teenagers were the most vulnerable, the group singly accounting for 40.9 per cent of cases, followed by the nulliparous in their early twenties with 35.5 per cent. In all, the nulliparous patients accounted for more than three quarters (78.5%) of the cases despite the relatively smaller number of deliveries.

The relative risk in the nulliparous patient in about 25 times that in the multipara.

The type of eclampsia and the gestational age of presentation are shown in Table 2. Antepartum variety constituted the majority of 87 of 93 (93.5%) cases. More than half presented at term (68.8%) while less than one tenth presented while the pregnancies were between 28-33 weeks.

The outcome of the eclamptics are shown in Table 3. There were 19 maternal deaths and 11 perinatal mortalities. Thirty Seven (39.8%) of the patients were delivered vaginally out of which there were 7 each of maternal and perinatal deaths, while in the 56 (60.2%) patients delivered by caesarean section.

There were 12 and 4 maternal and perinatal deaths respectively. The relative risk of maternal and perinatal deaths as related to the method of delivery are as shown in the table.

The maternal complications were mainly puerperal sepsis and pneumonitis each accounting for 16.4 per cent of cases, cerebrovascular haemorrhage in 13.7 per cent of cases, coagulopathy in 5 (6.8%) and temporary loss of sight in 5.5 per cent of cases. The case fatality rate was 19 of 93 (20.4%).

The total births were 97 (4 sets of twins) out of which 11 babies died giving a perinatal mortality ratio of 113 per 1000.

Table 1 Age and Parity Distribution of the Eclamptic Cases

	0.	1.	2.	3.	4.	> 5
PARITY						
AGE (YRS)						
15 - 19	38	0	0	0	0	0
20 - 24	33	4	0	0	0	0
25 - 29	2	6	0	0	0	0
30 - 34	1	1	3	0	0	0
≥ 35	0	1	0	0	4	0
Total	74	12	3	0	4	0
Total Deliveries	759			4664		
Risk	0.076			0.003		

Relative Risk between Primips & Multips
 $\frac{0.076}{0.003} = 25.3$

Table 2 Types of Eclampsia and Gestational Age At Presentation

Type	Number	Percentage
Antepartum	87	93.5
Intraopartum	4	4.3
Postpartum	2	2.2
TOTAL	93	100.0
Gestational Age (Weeks)	Number (N - 93)	Percentage
28 - 33	9	9.7
34 - 36	20	21.5
> 37	64	68.8
TOTAL	93	100.0

Table 3 Maternal and Perinatal Mortalities Relative To The Mode of Delivery

Delivery (n - 37)	Caesarean section (n-56)	Relative risk
Maternal Mortality 7(0.19)	12 (0.21)	1.10
Perinatal Mortality 7(0.19)	4(0.07)	0.37

Maternal Complications

Complications	No of	Percentage
	Cases n=93	%
1. Puerperal Sepsis	12	12.9
2. Cerebrovascular Haemorrhage	10	10.8
3. Pneumonitis	12	12.9
4. Coagulopathy	5	5.4
5. Temporary loss of sight	4	4.3
6. Maternal Death	19	20.4

DISCUSSION

The incidence of eclampsia of 1.3 per cent found in this study is higher than the rates of 0.2-1.2 per cent reported by previous workers from Ilorin and Lagos^{5,6}. Since these reports were from the same sociogeographical zone of the country, the difference might have been due to smaller number of normal deliveries that took place in our own teaching hospital while majority of normal uncomplicated births took place in the peripheral health facilities.

In the United Kingdom, eclampsia complicates only 0.05 per cent of pregnancies, relatively rare when compared with figures from the developing countries^{5,6}. When it occurs, majority are during labour or postpartum in patients mostly at term and on admission in the hospital where it can be promptly and adequately treated before complications set in. In contrast, antenatal eclampsia was the most common form of presentation from this review accounting for over 90 per cent of cases. The reason for this difference was that all pregnant women in the United Kingdom had a form of supervised antenatal care while in this study, almost all 96.8 per cent were unbooked with very little or no antenatal care throughout the period of the pregnancy. The fact that eclampsia is predominantly a disease of the young nulliparous patients^{5,6,7,8} was adequately supported by this study where they constituted 76.3 per cent of cases with a relative risk of 25 when compared with multiparous patients.

As earlier pointed out, majority were unbooked, 96.8 per cent similar to other reports from previous authors.¹⁰ Similar to previous reports⁹, most of the eclamptic cases from this review could be classified as late because they have had many fits before arriving in hospital when serious complications including metabolic acidosis would have set in and they would have been given many local convulsions. All these would result in high maternal and perinatal mortalities as exemplified in this review with a high

Case fatality rate of 20.4 per cent and perinatal mortality ratio of 113.0 per thousand. This is in contrast to what operates in the developed countries where case fatality rate and perinatal mortality from eclampsia are insignificant.

The fact that eclamptic patients had been delivered most of the time by Caesarean Section^{8,14} is supported by this study where 60 per cent of the patients were delivered abdominally. Most of the patients 93.5 per cent had antenatal eclampsia when they were either not in labour or in early labour with unfavourable cervix for imminent delivery, and to expedite delivery, Caesarean Section would be the method of choice, hence the preponderance of abdominal delivery. The fear associated with operative delivery was allayed by the result of this study since there was no significantly increased risk of maternal death among the eclamptics delivered abdominally compared to those delivered vaginally (RR 1.1, X^2 0.0909; 1df $P < 0.05$). Also, the risk of perinatal death was significantly less with abdominal than vaginal delivery (RR 1:0.37 X^2 27.75; 1df $P < 0.05$). These findings agreed with earlier reports^{14,15} and further reiterate the fact the Caesarean Section could be more liberally employed in the delivery of eclamptics especially when vaginal delivery may not be achieved within four hours of presentation.

In the developed countries where the incidence of eclampsia is very low and the maternal mortality very small, it is still a relatively major contributor to the maternal deaths¹¹. In the developing countries, it constitutes between 18 and 30 per cent of total maternal deaths.^{12,13}

Respiratory complications seem to be the major cause of death in eclampsia in both parts of the world but whereas it is associated with due ventilatory management in the intensive care units in the developed countries¹¹, in the developing countries, it is due to aspiration pneumonitis and puerperal sepsis from administration of various local convulsions during the period of convulsion. This was demonstrated in this review with 12.9 per cent each of aspiration pneumonitis and puerperal sepsis respectively and ultimately resulting in the death of the patients. Other complications of cerebral haemorrhage, coagulopathy and temporary loss of sight occurred in similar frequencies as earlier observed.

In almost all cases eclampsia is preceded by signs of pre-eclampsia which could be detected by good antenatal check. The problem was that most of the patients were unbooked with little or no antenatal supervision. In as much as good obstetric services, prompt referral and use of appropriate anticonvulsants will improve the outcome of the

eclamptic patients, all patients should be advised on antenatal booking at all levels of care, primary, secondary and tertiary. The attendants at the source of care should be educated on simple antenatal checks of blood pressure, urine for protein and sugar and the need to refer any patient with hypertension and proteinuria to hospital at any gestational age for treatment before becoming eclamptic. In addition all primigravid patients especially the teenage one should be registered, monitored and delivered in a well equipped health institution. All these measures will reduce the incidence of eclampsia and minimize associated complications.

REFERENCES

1. **Douglas K. A. Redman C.W.G.** Eclampsia in the United Kingdom. *Brit Med J.* 1994; 309:1395 1400
2. Department of Health, Welsh Office, Scottish Home and Health Department, DHSS Northern Ireland (1991) Report on Confidential Enquiries into maternal Deaths in the United Kingdom 1985 1987 London HMSO.
3. **Hibbard L. T.** Maternal Mortality due to acute toxæmic. *Obstet Gynaecol* 1973; 42:263 270.
4. **Coard K, Cordington G, Escoffery C, Keeling J.W, Ashley D., Golding J.** Perinatal Mortality in Jamaica 1986 1987 *Acta Paediatrica Scand* 1991;80: 749 755
5. **Adetoro O. O.** Pattern of Eclampsia at the University of Ilorin Teaching Hospital, Ilorin1. Nigeria. *Int J. Gynaecol Obstet* 1990; 31:221 226.
6. **Odum M.C. U.** Eclampsia an analysis of 845 cases treated in Lagos University Teaching Hospital, Lagos Nigeria over a 20 year period. *J. Obstet Gynaecol East Centre Afr.* 1991;9;16 19.
7. **Diejomaoh F.M.E., Omene J.A., Omu A. E.** Preeclampsia and eclampsie at the University of Benin Teaching Hospital, a review of 226 cases. *Trop J. Obstet Gynaecol* 1980;1:91 96.
8. **Ogunniyi S. O., Sanusi Y. O. Ogunnyi F. A.** Eclampsia: A Continuing Obstetric Catastrophe in a developing economy: the Ile Ife Experience. *J. Obstet Gynaecol,* 1999 19(1): 26 - 29
9. **Lawson J. B.** Eclampsia. In *Clinics in Obstetrics and Gynaecology* Philpott R. (Ed) H. London WB Saunders 1982; 711 721
10. **Itam H. I., Ekabua J. E.** A review of Pregnancy Outcome in Women with Eclampsia at the University of Calabar Teaching Hospital, Calabar *Trop J. Obstet Gynaecol* 2001; 18; 66 68.
11. **Redman CWG.** Hypertension. In *Medical Disorders in Obstetric Practice 4th Edition.* Michael de Swiet(Ed) Blackwell Publishing London 2002; pg 159 197.
12. **Olatunji A. O. Abudu O. O. A.** Maternal Mortality at Sagamu, Nigeria A ten year review (1988 1997). *The Nig. Med. Pract.* 1996; 31(1/2): 2- 6
13. **Olatunji A. O. Sule Odu A. O.** Maternal Mortality at Sagamu, Nigeria A ten year review (1988 1997). *The Nig. Postgard Med. J.* 2001; 8(1): 12 15
14. **Onah H. E., Okaro J. M.** Caeserean Section in the delivery of Nigerian Eclamptics. *Trop J. Obstet Gynaecol* 2001; 18(8): 34 37
15. **Critchon D; Notelovitz M., Heller I.** Less conservatism in treatment of eclampsia *J. Obstet Gynaecol Brit Cmwrth* 1968; 75:1019 1023.