

PREGNANCY OUTCOME IN ECLAMPTICS AT THE UNIVERSITY OF ABUJA TEACHING HOSPITAL, GWAGWALADA, ABUJA: A 3 YEAR REVIEW

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ABSTRACT

Background: Eclampsia remains one of the major causes of maternal morbidity and mortality especially in the developing countries. In Nigeria, it is the 3rd commonest cause of maternal mortality. The high maternal morbidity and mortality due to eclampsia in the developing countries has been ascribed to late referral, delay in hospitalization, lack of transport, unbooked status of patients and multiple seizures prior to admission.

Objective: To review the presentation and management of eclampsia at the university of Abuja Teaching Hospital(UATH), the factors associated with it, the maternal and perinatal outcome and make recommendations on how to reduce maternal and perinatal morbidity and mortality from eclampsia.

Methodology: The case notes of all the patients that had eclampsia between 1st May 2005 and 30th April 2008 were retrieved and analyzed. The informations sought for include age of the patients, parity, booking status, type of eclampsia and blood pressure at presentation. Other informations include level of proteinuria, anticonvulsants used, mode of delivery, maternal complications and perinatal outcome.

Results : There were 4471 total deliveries within the period, out of which 59 had eclampsia, giving an incidence of 13 per 1000 deliveries. There were 5 maternal deaths, giving a case fatality rate of 8.5%. Eclampsia was commonest amongst the age group of 20-24 years (34.8%). Primigravidae constituted 60.9% of the cases. Majority of the patients (89.1%) were unbooked. Antepartum eclampsia (73.9%) was more than intra-partum (19.6%) and postpartum (2.2%) combined. Thirty two patients had severe hypertension on admission (diastolic BP= 110 mmHg) while 11 (23.9%) had mild hypertension (diastolic BP 90 - < 110 mmHg). Twenty patients (47.8%) were managed with diazepam alone while 19 patients (41.3%) were managed with magnesium sulphate alone. Five patients were managed with both. Thirty nine (84.8%) were delivered through caesarean section while 5 (10.8%) were delivered vaginally. Maternal complications include 6 cases of acute renal failure and one case of visual impairment. Thirty seven babies were delivered live while 8 stillbirths were recorded. Six babies (13.0%) had very low birth weight, 14 (30.4%) had low birth weight and 16 (34.8%) had normal birth weight.

Conclusion: Eclampsia still remains a major cause of maternal morbidity and mortality in Nigeria. More awareness and enabling factors should be created for more women to access antenatal facilities. Information about danger signs of pre-eclampsia/eclampsia should be made available to antenatal clients. Government should be committed to providing emergency obstetric case facilities in our hospitals for effective management of eclampsia.

Key Words: Pregnancy outcome, Eclamptics, Gwagwalada, FCT.

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INTRODUCTION

Eclampsia is defined as pre-eclampsia complicated by generalized tonic-clonic convulsions.¹ Although eclampsia is uncommon in developed countries, it is still a major cause of maternal morbidity and mortality world wide.² In Nigeria, it is the third commonest cause of maternal mortality.³⁻⁵ The incidence of eclampsia in the UK is 0.49 per 1000 maternities⁶ whereas in Nigeria, the incidence

varies from 3 to 17 per 1000 deliveries.⁷⁻⁹ The high maternal morbidity and mortality in the developing countries has been ascribed to late referral to a tertiary hospital, delay in hospitalization, lack of transport, unbooked status of patients, high parity, the state of unconsciousness and multiple seizures prior to admission.¹⁰

Although the precise cause of pre-eclampsia which precedes eclampsia is not known, early detection through antenatal care and proper treatment will prevent progression to eclampsia.

The aim of this study is to review how eclampsia

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presents and is managed in this hospital, the factors associated with it, the maternal and perinatal outcome and to make recommendations on how to reduce maternal and perinatal morbidity and mortality from eclampsia as seen in this hospital.

MATERIALS AND METHODS

The University of Abuja Teaching Hospital is one of the tertiary hospitals within the Federal Capital Territory (FCT), the other being the National hospital.

It receives patients from within the FCT and the surrounding States of Kogi, Nasarawa, Niger and Kaduna States.

Eclampsia are usually admitted directly into the labour ward. Currently, eclampsia is managed in this hospital with magnesium sulphate using the zuspan regimen to control fits and prevent further fits.

The case notes of the patients who had eclampsia between 1st May, 2005 and 30th April, 2008 were retrieved and analyzed with regards to age, parity, booking status, type of eclampsia and blood pressure at presentation. Other informations looked for include level of proteinuria at presentation, anticonvulsants used and mode of delivery. Maternal complications as well as perinatal outcome in respect to live babies or stillbirths, birth weight and Apgar scores for the live babies were also studied.

RESULTS

During the period under review, there were 4471 total deliveries out of which 59 were eclamptics, given an incidence of 13 per 1000 deliveries. There were 5 maternal deaths from eclampsia given a case fatality rate of 8.5%. Out of the 59 cases, 46 case notes were available for analysis. The case note retrieval was therefore 77.9%. Three case notes of the 5 maternal mortalities were available for analysis.

Tables 1 shows eclampsia was commonest amongst the age group of 20-24 years (34.8%). Overall, more than 50% of the cases occurred between the ages of 20-29 years (60.9%)

Table 1: Age Group Distribution of Eclamptic Patients.

Age group (yrs)	Frequency	Percentage
15 – 9	8	17.4
20 – 24	16	34.8
25 – 29	12	26.1
30 – 34	5	10.8
35 – 39	4	8.7
> 40	1	2.2
Total =	46	100 %

Primigravidae constituted the highest number of the eclamptics (60.9%) as shown on table 2. It was less amongst the grand multiparas (8.7%). Majority of them (89.1%) were unbooked while in one patient (2.2%) the booking status was not stated. Only 4 patients (8.7%) amongst them were booked.

Table 2: Parity Distribution.

Parity	Frequency	Percentage
0	28	60.9
1 – 4	12	26.1
> 5	4	8.7
Not Stated	2	4.3
Total	46	100%

Table 3 showed 34 (73.9%) occurred ante-partum, while 9 (19.6%) and 1 (2.2%) occurred intra-partum and postpartum respectively. In 2 patients (4.3%), the period of occurrence were not stated.

Table 3: Gestational Age at Fitting.

Gestational Age	Frequency	Percentage
Antepartum	34	73.9
Intra partum	9	19.6
Post partum	1	2.2
Not stated	2	4.3
Total	46	100%

Thirty two patients (69.6%) were admitted with severe hypertension (diastolic blood pressure > 110 mmHg) while 11 (23.9%) had mild hypertension (Diastolic BP of 90- < 110mmHg). One patient (2.2%) had a diastolic blood pressure of less than 90mmHg while in 2 patients (4.3%) the blood pressure were not recorded on admission.

Table 4 : Proteinuria at Presentation.

Degree of Proteinuria	Frequency	Percentage
Nil	3	6.5
Trace	1	2.2
+	4	8.7
2 +	6	13.1
3 +	22	47.8
Not stated	10	21.7
Total	46	100%

Table 4 shows the degree of proteinuria at presentation. Twenty-two patients (47.8%) had proteinuria of 3+ while in 3 patients (6.5%), there was no proteinuria.

Twenty patients (47.8%) were managed with diazepam alone while 19 patients (41.3%) were managed with magnesium sulphate alone. Five patients (10.9%) were managed with both diazepam and magnesium sulphate. After institution of

treatment, 43 patients (93.5%) had no recurrent seizures whereas 2 patients had 1-2 recurrent seizures. Only 1 patient (2.2%) had more than 3 recurrent seizures after institution of treatment.

Thirty-nine of them (84.8%) were delivered through caesarean section while 5 (10.8%) delivered vaginally. One patient (2.2%) who was referred from a private clinic in town died undelivered before anything could be done. The only postpartum case delivered vaginally in a private clinic before she was referred to UATH when she started fitting.

Maternal complications included acute renal failure which was recorded in 6 patients (13.0%) while there was visual impairment which later resolved in one of them. The 3 maternal deaths all had acute renal failure.

The perinatal outcome showed that 37 babies (80.4%) were delivered alive while 8 (17.4%) stillbirths were recorded. One patient died undelivered. The stillbirth rate was 2 per 1000 deliveries.

Five minutes Apgar scores of the live babies showed sixteen of them (43.2%) had normal Apgar scores, 17 (46.0%) had intermediate Apgar scores while 1 (2.7%) had low Apgar scores.

Six babies (13.0%) had a birth weight of < 1500g while 14 babies (30.4%) had birth weights of > 1500g but < 2500g. Sixteen babies (34.8%) had birth weights of > 2500g. There were no records of birth weight in 10 (21.8%) of them.

DISCUSSION

Eclampsia remains one of the leading causes of maternal and perinatal mortality and morbidity in the developing world^{11,12}. Pre-eclampsia/Eclampsia are responsible for approximately 50,000 maternal deaths worldwide annually.^{12,13,14} A good number of eclamptic convulsions occur unexpectedly and cannot be foreseen¹⁵.

The incidence of 13 per 1000 deliveries found in this study is less than 17 per 1000 deliveries found in Sagamu, Nigeria, but higher than 7.8 per 1000 deliveries found in National Hospital Abuja, a sister tertiary hospital in the metropolitan area of the Federal Capital Territory.^{8,9} It is less than 24.5% reported in Aba.¹⁶ This is in contrast to figures found in developed world where the incidence in the UK is 0.49 per 1000 maternities and in the United States where 0.52% of cases of pre-eclampsia progress to eclampsia.^{6,13}

Although the incidence of eclampsia in this institution is higher than in the National hospital, the case fatality rate of 8.5% is less than 28.3% obtained from the National hospital.⁹ The case fatality is one of the United Nation's process indicators that show the quality of service as regards saving women's lives in that facility. Case fatality rate of 8.5% from this

study is much higher than the maximum recommended 1% by the United Nations.¹⁷ This is an indication that a lot more has to be done to save more women from dying from eclampsia.

The highest age group incidence of 20-24 years is less than 25-29 years found in Aba and much less than 31-35 years found in the National hospital.^{9,16} It is however, greater than the highest age group of 15-19 years found in Shagamu.⁸ As shown by this study, pre-eclampsia and therefore eclampsia is much commoner amongst the primigravidae. Findings from other studies attest to this.^{1,6,7,8,9,18,19,20}

Majority of the patients were unbooked. This was also the finding from other studies in this country.^{7,8,9,18} Unbooked emergencies constitute the main high risk group for maternal mortality in Nigeria.²¹⁻²⁵ Unbooked emergencies usually arrive at the hospital for the first time when their lives are already endangered by pregnancy complications. They suffer the consequences of antenatal neglect (no malaria prophylaxis, unchecked hypertensive complications, anaemia, etc) and neglect in labour and postpartum leading to complications²⁶. Various constraints have been adduced to late arrival of unbooked emergencies. These are cultural, financial, social, transportation, telecommunication barriers, and most importantly, illiteracy. Activities of rapidly growing evangelistic protestant churches have also hugely added to the problem of recent.²⁶

Virtually all cases of eclampsia except one occurred ante partum and intra-partum. This is similar to findings from other studies in this country^{7,8,9,16,20} but differs from findings in developed countries where postpartum eclampsia tends to be more common. This has been ascribed to improvement in prenatal care, earlier detection of pre-eclampsia and prophylactic use of magnesium sulphate.²⁷

Eleven patients fitted with mild hypertension while one patient fitted with a normal blood pressure in this study. Proteinuria was also not found in three of the patients. This is not surprising because the concept of "normotensive pre-eclampsia" is well recognized. Approximately 20% of eclamptic patients and 15% of patients with HELLP syndrome are normotensive whereas 30% have no premonitory proteinuria.^{6,28}

Although more eclamptics were managed with diazepam than magnesium sulphate in this study, magnesium sulphate remains the drug of choice for prevention and management of eclampsia.^{29,30} Magnesium sulphate was introduced into this department at about July 2005. It is still the recommended drug of choice for the management of eclampsia in the department. However, high cost and occasional non-availability of it make a recourse to the use of diazepam inevitable. That explains the high number of eclamptics managed with diazepam in this study. The problem with magnesium sulphate

in most developing countries has been shown to be that of availability and cost³⁰.

Majority of the patients (84.8%) were delivered through caesarean section. This is similar to the findings from Sagamu and Enugu where majority of the patients were also delivered by caesarean section^{8,18}. Although there has been recommendation on liberal use of misoprostol for induction of eclamptics with unfavourable cervix in the events of delay at caesarean section³¹, the eclamptic patient should however, be delivered in a timely fashion.³² Once the patient is stabilized, the method of delivery should depend, in part, on factors such as gestational age, foetal presentation and condition, presence or absence of obstetric indication for caesarean section and the findings on cervical examination.^{32,33}

Acute renal failure was the commonest maternal complication. All the 3 maternal deaths had that complication. Other complications recorded elsewhere include HELLP syndrome, DIC, septicaemia, pulmonary oedema, cerebrovascular haemorrhage and oro-facial injuries.^{8,9,34}

The American Academy of Paediatrics and the American College of Obstetrics and Gynaecology classified 5 minutes Apgar score into normal, intermediate and low.^{35,36} However, it is been said that 1 and 5 minutes Apgar scores correlate poorly with either cause or outcome. The scores alone should therefore, not be considered evidence of or a consequence of substantial asphyxia.^{35,36}

Eclampsia still remains a major cause of maternal mortality in Nigeria and the developing world. More awareness and enabling factors in assessing antenatal facilities should be made available. Adequate information about danger signs in pre-eclampsia should be made available to patients. Government should be committed in provision of emergency obstetric care facilities in the hospitals for effective management of eclampsia. Subsidizing the cost of magnesium sulphate will make it to be readily available during the time of needs. All these will go a long way in reducing morbidity and mortality from eclampsia in our country.

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