International Journal of Biomedical and Health Sciences
Vol. 7, No. 1, March 31, 2011
Printed in Nigeria

0794-4748/2011 $2.00 + 0.00

http://www.asopah.org

IJBHS 2010180/7107

Delivery Outcome in Eclamptic Women Admitted to Murtala Muhammed Speacialist Hospital, Kano State of Nigeria

N. Abdullahi*[1] and A.U.A.Dikko[2]

[1]Department of Biological Sciences, Bayero University, Kano, Nigeria
[2]Department of Physiology Bayero University, Kano, Nigeria

(Received November 4, 2010; Accepted February 8, 2011)

ABSTRACT: Eclampsia is a serious pathological condition affecting pregnancy. A study was conducted on eclamptic patients admitted into Murtala Muhammad Specialist Hospital Kano State, with the objective of assessing the impact of eclampsia on the fetal delivery outcome. Questionnaire was administered to the women under study (104). Mercury sphygmomanometer was used for blood pressure measurement. Dip stick method was used to detect protein in urine. Edema was visibly observed in various part of the body. Eclampsia was recorded in both primigravidae and multigravidae based on the clinical features of the disease measured above. Pre-term fetus was found in both primigravidae and Multigravidae and were found to be higher among primigravidae ($p=0.01$). Avery low birth weight infant (<2.5kg) were observed in this study and were found to be higher among primigravidae ($p=0.01$). Higher birth weight infant (>4.00kg) were also recorded in some eclamptic patients. Fresh still births among the delivered fetus by eclamptic women were observed. There is need for community health education to increased awareness of pregnant women to avail themselves of antenatal care and safe delivery in nearest health post as well as reduction of poverty and improvement of socio-economic conditions of the citizen.

Keywords: Eclampsia, Fetal Delivery outcome, Primigravidae, Multigravidae

Introduction

Eclampsia is a life threatening emergency in pregnancy which continues to be serious cause of maternal and fetal morbidity and mortality world wide (Lucy.2004).The cause of eclampsia is poorly understood (Mathew, *et al* 2003), although several factors have been implicated in the development of the diseases which include severe vasospasm leading to pathological alteration in cerebral blood flow, tissue edema hypertensive encephalopathy.

*Author to whom correspondence should be addressed.
E-mail: abdullahi.nuradeen@yahoo.com

In Eclampsia the fetal delivery outcome varies depending on the type of eclampsia as well as nature of the complication of the pregnancy. In Kano State,eclampsia was not only the commonest cause of maternal death but also contributed 46.3% of all maternal death in one study(SEOS,2004) and 31.3% in another(Adamu *et al.,* 2003) as well as fetal complications at birth. In the developing Countries, there is low utilization of both antenatal and intrapartum care and the patients may present to the hospital only as a last resort. The opportunity to detect any fetal problem in the womb as well as women at Pre-eclamptic phase is therefore usually lost. In addition, the world health organization estimate that only 40% of birth in developing countries take place in health facilities (WHO, 1997) when delivery care is sought, it is done late, after a lot of delays and contribute to a lot of fetal morbidity , intrauterine fetal death and many other fetal complications. The present study was therefore undertaken at Murtala Muhammad Specialist Hospital, Kano State, which is one of the largest Hospitals in West Africa, in order to assess the delivery outcome in eclamptic patients admitted into the Hospital.

Materials and Methods

The present study was conducted in Murtala Muhammad Specialist Hospital Eclamptic ward from 2003 to 2004. A clearance from the Hospital was obtained. Questionnaires were administered to the patient under study (104).Relevant information were documented which include, parity, age, as well as record of antenatal care. Protein was detected using conventional dipstick method (Sibai, 1988). Systolic and diastolic blood pressure was measured with mercury sphygmomanometer (Quinn, 1991) soon after sedation with diazepam injection by the ward nurses. Edema was visibly observed in various regions of the body (Macgillvray1983).Fetal outcome which include fetal status at birth (alive or fresh still birth), gestational age at delivery, birth weight as well as the fetus condition were obtained based on the abdominal examination of the pregnant women by the ward consultant.

Results And Discussion

Eclampsia which is a serious pathological conditions affecting pregnancy has been recorded in both primigravidae and multigravidae.Variable degree of hypertension which range from mild-moderate and severe form were recorded in both primigravidae and multigravidae respectively (Table1). Edema which is the (accumulation of fluid in interstitial space) in various regions of the body which include the pedal,vulval and generalised(Table1) were found in this study. The variation in these clinical features may be due to differences in the level of endothelial cell damage. Eclampsia was found to be higher in primigravidae (76%) than in multigravidae (24%)(Table2). Age has been a risk factor of the eclampsia as most eclamptic cases in primigravidae occur at the age of 16-20 which is not the same as in multigravidae(Table2).

Most of the women under study do not have proper antenatal care based on the record from their hospital antenatal card which clearly indicate inconsistency in antenatal visit(Table2).Probably the inconsistency of the antenatal care may be attributed to lack of proper formal education below secondary level(Table2).The age distribution of the patients is similar to other reports and this suggest that eclampsia is probably a disease of young women((Swin, *et al*,1996.,Conde, *et al*.,1998 and Konje, *et al*,1992)Furthermore, the finding in this study was also similar to the report of Kullima *et al* (2009) who reported higher% of death in eclamptic women among these with no formal education. Variable degree of hypertension which range from mild-moderate and severe form were recorded in both primigravidae and multigravidae respectively (Table2). Edema which is the (accumulation of fluid in interstitial space) in various regions of the body which include the pedal, vulval and generalised(Table2) were found in this study. The variation in these clinical features may be due to differences in the level of endothelial cell damage.

Pre-term delivery has been observed in this study in both primigravidae and multigravidae(Table3).The figure was found to be higher in primigravidae than in multigravidae(25.31% and 12%) and the differences observed between the two groups were found to be statistically significant (p=0.05).This finding was

comparable to that reported by Sonal *et al* (2002). Endothelial cell damages in blood vessels which can result in the rise of both systolic and diastolic blood pressure as well as constriction of the spiral arteries which might cause of utero -placental insufficiency may play a significant role in the contraction of the uterine wall in order to deliver irrespective of the gestational age of the pregnancy.

Low birth weight babies (<2.4kg) were found to be delivered by primigravidae (25%) however all the babies delivered by Multigravidae had a normal birth weight which ranges from (2.5-3.9kg).The low birth weight recorded(Table3) may be attributed to utero-placental insufficiency of food. Result of the study further indicated that 42.31% of the babies delivered by both primigravidae and multigravidae respectively were delivered as fresh still birth(Table 3).The result of this study was similar to that reported by(Tayyiba et al.,2004) were a high number of stillbirths on admission (47.7%), were documented mostly in mothers who had not received regular antenatal care(Tayyiba *et al*.,2004).

The findings in this study is an indication of utero-placental insufficiency of food and oxygen which is a common finding in eclamptic women, due to placental ischemia (Walker, 1995), produced by a factor X (free radical) which are biochemical mediators released into women blood streams, and once released these substances are very destructive, unstable and highly reactive that also cause endothelial cell damages in blood vessels which may result in restricted fetal growth and intra uterine fetal death. The increased in systolic and diastolic blood pressure in both primigravidae and multigravidae, may also serve as the contributing factor of the intrauterine fetal death.

Conclusion and Recommendation

Fresh stillbirth, low birth weight and Preterm fetus have been the major fetal outcome observed in this study. The major problem of pregnant women appears to be lack of utilization of antenatal care and delay at accessing skilled care during delivery. There is a need for community health education to increased awareness of pregnant women to avail themselves of antenatal care and safe delivery in nearest health post.

Table 1: Clinical features of eclampsia among admitted women

Clinical Condition	Number and% of Primigravidae	Number and % of multigravidae
Hypertension		
Mild-Moderate	50 (63.00)	15 (60.00)
Severe	29 (37.00)	10 (40.00)
Edema		
Pedal	24 (30.37)	9 (36.00)
Vulval	7 (8.86)	4 (16.00)
Generalised	48 (60.77)	12 (48.00)

Table 2: Socio-demographic characteristics of the admitted women under study (N=104)

(a)

Parity	**Number**	**Percentage (%)**
Primigravidae	79	76
Multigravidae	25	24
Total	104	**100**

(b)

Antenatal care	**Number**	**Percentage (%)**
Proper	50	48
Unproper	54	52
Total	104	**100**

(c)

Age	**Number and % of primigravidae**	**Number and % Multigravidae**
<15	4 (5.07)	0
16-20	62 (78.48)	11 (44.00)
>20	16.45 (13)	14 (56.00)
Total	79	25

(d)

Educational Status	**Number and % of Primigravidae**	**Number and % of Multigravidae**
Educated	21 (27.00)	8 (32.00)
Non-educated	58 (73.00)	17 (68.00)
Total	79	25

Table 3: Fetal delivery outcome among admitted eclamptic women (N=104)

(a)

Birth weight	Number and % of Primigravidae	Number and % of Multigravidae
<2.5kg	20(25)	0(0)
2.5-3.9kg	49(62.5)	25(100)
>4.00kg	10(12.5)	0(0)
Total	79	25

(b)

Gestational age of delivery	Number and % of Primigravidae	Number and % of Multigravidae
Pre-term (<8months)	20(25.31)	3(12.00)
Term (9months)	53(67.10)	21(84.00)
Post-term (>9months)	6(07.59)	1(4.00)
Total	79	25

(c)

Fetal status at birth	Number	Percentage
Fresh still birth	44	42.31
Alive	60	57.69
Total	104	100

References

Adamu, YM.,Salihu, HM.,SathiaKumar,N.,Alexander,R. (2003)Maternal mortality in Northern Nigeria.: A population based study .*Eur J Obstet Gynecol Reprod Biol*:109;153-159

Conde-Agudelo, A. and Kafury-Goeta, AC.(1998) Epidemiology of eclampsia in Colombia. *Int J Gynecol Obstet.* 61: 1-8.

Konje ,JC. Obisesan, KA,and Odukoya, OA.(1992). Presentation and management of eclampsia. *Int J Gynecol Obstet*. 38: 31-35.

Kullima,A.A.Mohammed,B.K,Bala,M.A. and Hadiza,U.(2009).A 5-year review of maternal mortality associated with eclampsia in tertiary institutions in Northern Nigeria *Annal of African medicine* 8(2)81-84.

Lucy. (2004)Recent advances in preeclampsia and eclampsia *Mera medical education Resource Africa*. 9(2) 1-2

Macgillivray, L. (1983).Preeclampsia WB.Saunders.Eastbourne.20 (2)10-12 Mathew, R.,Raj, K.S and Sudha, P. (2003).Late postpartum eclampsia without prodroma. *Neurology India*.51 (4)539-540.

Quinn, M.J. (1991).Blood Pressure Measurement in Pregnancy.*Lancet*.338:130.

Redman (1994).Preeclampsia: Still a difficult disease. *Professional care of mother and chil.*.7-9.

Sibai,BM. (1998).Pitfalls in diagnosis and management of preeclampsia. *AM J Obstet Gynecol* 159:1-5.

Sonal, B., Amitta, B., and Kiran, Q. (2002). Anti-convulsion in eclampsia. *Journal of Indian Medical Association*.100 (8)1-8

Status of Emergency Obstetric Services (2004)in Six States of Nigeria-A need assessment reprt.Society of Gynecology andObstettric in Nigeria.

Swain S, Ojha K N, Prakash A(1993). Maternal and perinatal mortality due to eclampsia *Indian Pediatr* 30(6): 771-773.

Tayyiba,W.Marryam,G. and Sadib,S.(2004)Eclampsia a major cause of maternal and perinatal morbidity and mortality.*The professional* 11(3):328-333

Walker, I. (1995): Pre-eclampsia. *Maternal and child health*. 120 (2) 329-31.

WHO (1997): Coverage of maternity care. A list of available information. Geneva, Swithland.*Maternal and newborn health/safemorterhood.*