Eclampsia in Ilorin – A 5-Year Review.

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SUMMARY

Background: **Eclampsia though preventable remains a major contributor to maternal mortality in Nigeria. The incidence of eclampsia is on the increase in many centres. Earlier works on the subject in Ilorin reported low incidence and there is need to know the current situation?**

Objectives: **To determine the incidence and socio-demographic characteristics of eclampsia in Ilorin and feto-maternal outcome.**

Study Design: **Data were extracted from case notes of cases of Eclampsia treated in a Nigeria Teaching Hospital. The information extracted included obstetric and socio-demographic characteristics of the eclamptics and outcome of treatment. Mean outcome measure: Maternal and perinatal mortality.**

Results: **The incidence of eclampsia was 13.1 per 1000 delivery. Case fatality was 53.6 per 1000 eclamptic and perinatal mortality was 200 per 1000. Lack of prenatal care, primigravidity and multiple gestations were strongly associated with the development of Eclampsia. Ante-partum eclampsia mostly occurred in the last month of pregnancy and had the worst feto-maternal outcome.**

Conclusion: The incidence of eclampsia is on the increase in Ilorin. Primigravidae, multiple pregnancy and lack of prenatal care are associated with eclampsia. Elevated blood pressure in the last month of pregnancy should be enough indication for delivery and Caesarean section favours better infant condition at birth. *Niger Med J, Vol. 46, No. 2, April – June, 2005: 36 – 39.*

KEY WORDS: ***Eclampsia, maternal mortality, perinatal mortality.***

INTRODUCTION

Eclampsia complicates 30 per 1000 deliveries in Bangladesh[1]. In Nigeria, hospital based studies put the incidence variously at 3.9, 4.6 and 9.3 per 1000 deliveries from Ile-Ife[2], Benin[3] and Ibadan[4] respectively. In contrast, the incidence of eclampsia in United Kingdom is 0.4 per 1000 maternity[5], the reason for this disparity can be found in non-utilisation and low quality of ante-natal care services in developing countries. Other reasons include social deprivation and poverty.

For quite sometime, progress in the identification of the aetiology and treatment of Eclampsia appeared to have stagnated. This multi-organ disorders unique to human pregnancy is associated with significant maternal and foetal morbidity and mortality especially in developing nations[5,6,7,8].

The current consensus of opinion on the aetiopathogenesis of pre-Eclampsia/Eclampsia is that of deranged maternal and foetal immunological adaptation of pregnancy, with consequent abnormal placentation and disordered prostanoid synthesis[6,9]. The disease is partially genetically determined in a fashion similar to single gene dominance with variable penetrance[10].

Less than 1 percent of pregnancy is complicated by Eclampsia. Obesity, diabetes and chronic hypertensive patients tend to progress rapidly from pre-Eclampsia to Eclampsia[11]. Other risk factors for pre-eclampsia/eclampsia are primigravidity, multiple pregnancy and poor socio-economic factors[12].

The standard treatment of Eclampsia includes control of fits, for which magnesium sulphate has comparative advantages over other anticonvulsants such as diazepam and phenyton[13,14] and also control of blood pressure with potent anti-hypertensive agent such as di-hydralazine. Prompt delivery of the woman through fast and safe route. Prophylactic use of anti-convulsant and calcium preparation are controversial. For logistic reasons diazepam is the anti-convulsant in use in this centre.

Previous works on eclampsia from this centre were done about two decades ago. This is a follow up study so as to determine outcome of pregnancy for both mother and baby, including APGAR score at first minute following pregnancy complicated by eclampsia.

MATERIALS AND METHODS

This is a retrospective descriptive study. The case records of all women with diagnosis of eclampsia in the University of Ilorin Teaching Hospital from January 1998 to December 2001 were reviewed.

The data collected included age, parity, booking status and gestational age. Other information analysed were mode of delivery, APGAR score at the first minute of live as well as outcome of pregnancy for both mother and baby.

The data in the case notes were re-confirmed by records in the labour, emergency wards and operating theatre. The data were subjected to statistical analysis. Of the 118 cases of Eclampsia, 6 casenotes contained incomplete information and were excluded. The practice of early burial of the deads and refusal to grant consent for post-moterm examination made it impossible to include autopsy findings in this report.

During the review period there were a total of 8,986 deliveries at the University Teaching Hospital Ilorin (Maternity Wing) and 118 cases of eclampsia were diagnosed. The incidence of Eclampsia was 1.31 percent of all deliveries.

The patients were aged between 18 and 40 years and the

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mean age was 26.41 years. 16 (13.56%) were teenagers.

Booking status among the eclamptic women revealed that 92 (82%) were unbooked and had no modern antenatal care. Only 21 (18%) were booked. Table 1 depicts variation of Eclampsia in various age groups in the pregnant women. About 50% of cases occurred in mothers aged 25 years and below.

Variation of eclampsia with parity showed that, there were 72 cases of eclampsia amongst 2,696 nullipara giving an incidence of 2.67 percent. However, there were 36 of eclampsia amongst 6,290 multipara giving incidence of 0.63 percent. Eclampsia is therefore four times commoner amongst the nullipara compared to the multipara and this is statistically significant ($P < 0.05$).

The incidence of Eclampsia in the singleton pregnancy was 1.10 percent, while it was 4.35 percent amongst the multiple pregnancy. This difference is statistically significant ($P < 0.05$).

Table 1: Variation of Eclampsia with maternal age.

Age in years	No. of Patients	Percentage
< 20	16	14
20 – 25	38	34
26 – 30	34	30
31 – 35	22	20
36 – 40	2	2

Table 2 shows the relative incidence of eclampsia in relation to labour and case fatality. Ante-partum, intrapartum and post-partum eclampsia accounted for 48%, 22% and 30% respectively. Anti-partum eclampsia was the commonest and it was associated with the worst case fatality.

Table 3 shows gestational age at which there was ante-partum eclampsia. Only 5 (9.25%) eclampsia occurred in the extreme preterm (less than 32 weeks gestation) while 38 (70%) occurred at term.

Table 4 depicts mode of delivery and the mean APGAR score at the first minute of life. 36 (46.15%) were delivered by emergency Caesarean section while 22 (28.21%) were delivered using either vacuum or forceps. The rest were delivered with the aid of episiotomy only.

Table 2: Types of Eclampsia and case fatality.

Types of Eclampsia	No. of Patients	Percentage of Eclampsia	No. of Deaths	Case Fatality %
Antepartum	54	48	4	7.40
Intrapartum	24	22	1	4.12
Postpartum	34	30	1	3.37

Table 3: Variation of Eclampsia with maternal age.

G. A in weeks	No. of Patients	Percentage
≤ 32	5	9.25
33 – 36	10	18.52
37 – 40	38	70.02
31 – 35	22	20
> 40	1	1.8

Table 4: Mode of Delivery and Foetal Performance.

Mode of delivery	No. of Patients	Average APGAR at first minute	Percentage
Episiotomy	20	4	25.64
Assisted section instrumental vaginal	22	4	28.21
Caesarean section	36	5	46.15

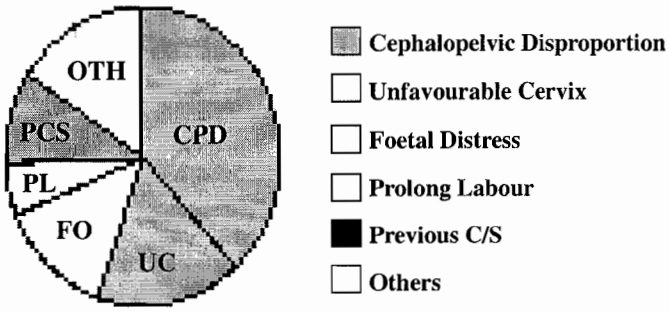

***Figure 1*: Indication for Caesarean Section amongst the Eclamptic Patients.**

Figure 1 showed that the commonest indications for Caesarean Section were cephalopelvic disproportion, followed by unfavourable cervix and foetal distress. Other indications were previous scar and prolonged labour. The infants delivered by emergency Caesarean section had most favourable mean APGAR score at the first minute of life, which is 5/10.

Figure ii showed variation of Eclampsia during the year. Eclampsia was seen throughout the year. However, 89 (71.43%) cases were seen from the month of May to November while the highest monthly incidence occurred in July.

DISCUSSION

The true incidence of eclampsia in our community is difficult to obtain as all the reports on the subject were hospital based. Yet, a well known factor is that significant proportion of pregnant, women do not avail themselves of orthodox maternity care[3].

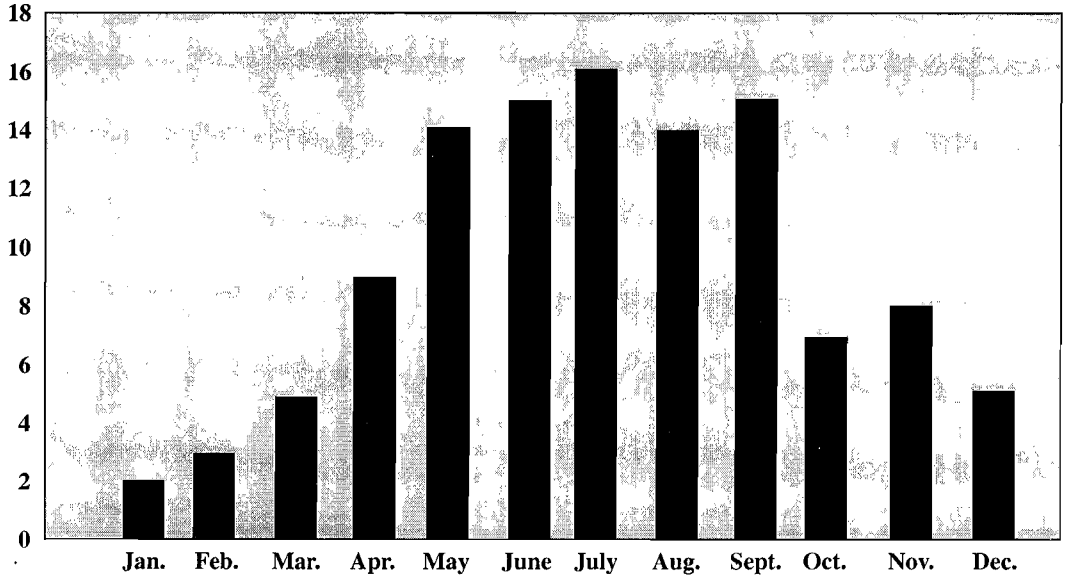

Figure 2: **Period of the year and No. of Eclampsia.**

The incidence of eclampsia in this review was 13.1 per 1000 deliveries. This is higher than 4.2 per 1000 reported by Adetoro in an earlier study[12]. This may be due to the fact that the total number of deliveries is much reduced compared to the time of Adetoro's work. Therefore, the dilusional effect of the large normal cases have been removed. The introduction of hospital fees contributed to the low patronage in recent time and only the complicated cases do come to the hospital. Similarly, Odum and others in Lagos documented increased incidence of eclampsia from 273 cases in 1967 – 1976 to 567 cases in 1977 – 1986[15]. In this review, 82% of eclamptic had no antenatal care, similar findings had been reported[4]. Quality ante-natal care would have prevented eclampsia in these women.

The incidence of eclampsia amongst the nulliparous women was 2.67 percent as against 0.63 percent amongst the multiparous. Similarly, eclampsia was 4.36 percent and 1.10 percent in the multiple and singleton pregnancies respectively. Eclampsia is therefore four times commoner in the primigravida compared to multipara, and similarly so in the multiple compared to singleton pregnancy. If these factors are additive, a primigravida carrying multiple pregnancy will be eight times at risk of eclampsia. However, further large scale studies are needed to validate this. In another study, multiple pregnancy was not found to be a risk factor for eclampsia. However, further large scale studies are needed to validate this. In another study, multiple pregnancy was not found to be a risk factor for eclampsia in Enugu[11].

Antepartum eclampsia was the commonest in this review, Konje *et al.* in Ibadan reported intrapartum eclampsia as the commonest[4], while post-partum eclampsia was the commonest in the United Kingdom (UK)[5]. Differential prevalence of different types of eclampsia in Nigerian studies may be a reflection of different population characteristics. In the UK, ante-natal care is so efficient such that, pre-eclampsia are detected and treated promptly, before progression to eclampsia. However, domiciliary birth and short hospital stay post-partum with its attendant reduction in the level of supervision may be responsible for eclampsia occurring in the post-partum period.

In 39 (72.0%) percent of cases of ante-partum eclampsia, fits occurred in the last month of pregnancy. Onah *et al.* in Enugu reported a similar finding[11]. The implication of this finding is that surveillance for pre-eclampsia and eclampsia should be heightened in the last month of pregnancy especially in those at risk. Elevated blood pressure in the last month of pregnancy may justify elective delivery.

Case fatality for antepartum eclampsia was the worst, while that for both intrapartum and post-partum were similar. A delay in delivery of an eclamptic woman worsens the feto-maternal prognosis. The study agrees with a previous report that eclampsia is commoner in the wet season from the month of May to October[2], a period when 70% of cases of eclampsia was seen in this study.

Among the ante-partum eclamptics, emergency Caesarean section was the mode of delivery in 46.15% of cases, while another 28.21% had instrumental vaginal delivery using either vacuum or forceps. Episiotomy was sufficient to effect vaginal delivery in the remaining cases. Cephalopelvic disproportion (CPD), unfavourable cervix and foetal distress were the three leading indications for emergency Caesarean Section. Similar findings were documented by previous authors[2,4,15]. The infants delivered by emergency casesarian section had a higher mean APGAR score at the first minute. This finding recommends a liberal use of caesarean section in cases of eclampsia. However, the anaesthetic risk must be borne in mind and adequate precautions taken.

Perinatal mortality of 200 per 1000 compares favourably well even with advance centres[5]. Eclampsia remains a major cause of maternal and perinatal mortality in Nigeria. Lack of ante-natal care, primigravidity and multiple gestation are

Yes

JOURNAL INFORMATION		
*	Journal title	Nigeria Medical Journal
	Journal acronym *(choose an acronym for your journal up to 6 characters long – this will be your journal identifier and you can use it as your URL – e.g. www.ajol.info/journals/AJFAND for the journal "AJFAND")*	Niger Med J
	ISSN	0300-1652
	Frequency of publication *(how many issues do you publish each year, and in what months?)*	Quarterly
*	Date of last published issue	October-December 2005
	EDITORIAL INFORMATION	
*	Editor-in-Chief Name	Stanley N C Anyanwu
	Title	Professor
	Institution/Affiliation	Nnamdi Azikiwe University Awka Nigeria
	Email	sncanyanwu@yahoo.com
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	PUBLISHER INFORMATION *(if you do not have a formal publisher this should be the name of your institution, faculty, or whatever organisation supports your publication)*	
*	Publisher	Nigerian Medical Association
	Publisher contact person	Editor-in-Chief
	Email	sncanyanwu@yahoo.com
	Phone	234-803-712-0400
	Fax	
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*	Peer-review policy *(do you have a peer-review policy? e.g. "each paper is sent to 3 reviewers, and the Editor-in-Chief makes final decision")*	Each article is sent to reviewers and the editor-in-chief makes the final decision
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	Guideline for reviewers *(if you have guidelines for reviewers, it may be useful to include them here)*	See attached
	Source of support *(for instance, a funder, donor)*	Nigerian Medical Association
*	Subscription information *(information about the price and contact details for print subscription)*	Nigeria N1,300 per annum (Individuals) N2,300 per annum (Institutions) African countries US$110 per annum Europe £135 per annum USA/Australia $275 per annum

		Cheques should be made payable to '**The Nigerian Medical Journal'** Please ensure that you add $25 or N1,000 for International and Local postage respectively Subscription requests should be addressed to: **The Editor, Nigerian Medical Journal,** c/o Department of Surgery Nnamdi Azikiwe University Teaching Hospital, PMB 5025, Nnewi Nigeria.
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Date of submission: June 29, 2006