

ECLAMPSIA: A TERTIARY CENTER EXPERIENCE IN THE NIGER DELTA

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ABSTRACT

BACKGROUND

Eclampsia is a potentially fatal disorder of pregnant women that has been prevalent since the time of Hippocrates. It accounts for about 9% of maternal deaths in Africa and Asia and about one-quarter of maternal deaths in Latin America and the Caribbean. In some parts Nigeria, eclampsia alone contributes to almost one third of maternal mortality. This study aimed to determine the incidence, the socio-demographic risk factors and examine the maternal and fetal outcome.

METHODS

Retrospective analysis of 171 parturients managed for eclampsia at the University of Port Harcourt Teaching Hospital, Nigeria between 1st of January 1998 and 31st of December 2005.

RESULTS

The incidence of eclampsia during the period was 0.93%. Majority (94.2%) of the patients were unbooked , the mean age was 25.04 ± 5.06 years, 70.2% of the cases were primigravidae, while 16.4% of the cases were teenage parturients . Half of the cases occurred intrapartum. It resulted in 9.9% and 28.3% of maternal and perinatal deaths during the study period. All maternal deaths was amongst the unbooked patients, while 84.2% of the cases occurred during the wet season.

CONCLUSION

Eclampsia is a disease of the unbooked, young primigravidae and is associated with high maternal and perinatal morbidity and mortality.

Key Words: *Eclampsia, incidence, outcome, Niger Delta, Nigeria.*

BACKGROUND

Eclampsia is the occurrence of generalized convulsion during pregnancy, in labour or within ten days of delivery

and not caused by epilepsy or other convulsive disorders [1]. The incidence of eclampsia varies from region to region. The incidence in western countries where there is excellent antenatal care is low. However, in developing countries like Nigeria the incidence is quite high, factors identified include ignorance about the disease, poverty and scanty or non-existent antenatal care, especially in the rural areas and where sizeable percentage of pregnant women do not avail themselves of antenatal care services [2]. It contributes significantly to the global burden of maternal morbidity and mortality with incidence of 1 in 2000 deliveries reported in developed countries and between 1 in 100 and 1 in 1700 in developing countries [3-5]. Other reasons for this high incidence in developing countries include illiteracy, poverty, and superstitious beliefs that prevent women from seeking medical care during pregnancy and delivery [6]. Moreover, even in developed countries, a substantial proportion of the maternal deaths are attributed to eclampsia, with about 15% of direct maternal deaths in the United Kingdom attributed to it [7]. Many authors have documented higher incidence of eclampsia in the unbooked women [6].

Detection and prevention of preeclampsia is important in order to avoid morbidity and mortality associated with eclampsia, these include the use of calcium and aspirin for prevention, anti-hypertensive drugs and magnesium sulphate for management of preeclampsia [8].

About 17% reduction in the risk of preeclampsia was noted with the use low dose aspirin in pregnant women at risk of preeclampsia, the effectiveness of magnesium sulphate in the prevention of the first fits in pre-eclamptics is well documented [8].

It is a multi-systemic disorder, affecting virtually every organ in the body, complications include; neurological deficit, Hepatic dysfunction, hepatic rupture, Renal failure, with about 67.2% of obstetrics causes of acute renal failure requiring dialysis attributed to eclampsia, myocardial

damage and in the long term cardiac and metabolic disease risks are increased. Other Complications like abruption placenta, HELLP syndrome, DIC are frequently seen. Fetal complications include; preterm delivery, intrauterine growth restrictions, birth asphyxia, increase risk of neonatal intensive care admission and increased perinatal mortality [1,9,10]. It is a major cause of perinatal mortality, responsible for up to 19.1% perinatal mortalities in some centers in Nigeria [11].

The purpose of this review is to determine the incidence, the socio-demographic risk factors and examine the maternal and fetal outcome of this preventable scourge in our environment.

METHODS

This study was a retrospective review of all cases of eclampsia managed at the University of Port Harcourt Teaching Hospital (UPTH), a tertiary hospital in Rivers State, Nigeria between 1st of January 1998 and 31st of December 2005. The sources of information were Antenatal, labour and neonatal ward records, theater records, patient's records and case notes. The total deliveries, fetal deaths, number of labour and postnatal wards admissions during the period of review were obtained as statistical denominators. Data relating to the socio-demographic variables, clinical presentation, the season of occurrence of fits, mode of management, observed complications and both maternal and foetal outcome following presentation were obtained. The wet (rainy) season was considered to be from April to October, while the dry season was from November to March.

The information obtained were coded and transferred onto a spreadsheet using Epi Info version 3.5.3 which was also used for analysis. Results are presented as percentages, means and standard deviations using tables and figures. Approval for this work was given by the Ethical Committee of the University of Port Harcourt teaching hospital.

RESULTS

During the seven year-period of study there were 18,345 deliveries, 171 cases were complicated by eclampsia giving an overall incidence of 0.93%.

Table 1 shows the socio-demographic characteristics of the patients. The age of the patients ranged from 15 and 40 years with a mean age of 25.04 ± 5.06 years, 16.4% of the eclamptic patients were teenagers. 144 (84.2%) of the cases occurred during the wet Season. Figure 1.

Table 2 shows that majority 99(57.9%) of the patients had their first fits at home, while Most 69 (40.3%) of them had 2 episodes of fit prior to onset of therapy. The number of fits prior to onset of treatment amongst the patients range between 1 and 8 with a mean of 2.58 ± 1.30 episodes of fits. 65.5% of the cases occurred within 33-42 week of gestation and intrapartum eclampsia was the most prevalent with 50.3% of cases occurring in labour.

Majority of the patients were delivered by caesarean section 120 (70.2%) due to unfavourable cervix. Thirty (17.5%) had spontaneous vaginal delivery while 19(11.1%) had assisted vaginal delivery (Table 3).

Hyperpyrexia was the commonest maternal complication observed in this study (Table 4). This was closely followed by acute renal failure and pulmonary oedema and or aspiration pneumonitis.

Table 5 shows that the commonest fetal complication was birth asphyxia [85 (46.6%)] closely followed by prematurity 80 (43.5%) and others include low birth weight and neonatal jaundice. There were 37 (20.1%) still birth and 15 (8.2%) early neonatal deaths resulting in 28.3% perinatal deaths.

DISCUSSION

The incidence of eclampsia from the various studies in Nigeria seems to vary widely from one region to another, Tukur reported an incidence of 1.2% in Kano, Bissallah in Sokoto reported 5.2%, Onuh in Benin, reported 1.32% and Okafor reported an incidence of 0.82% in Abuja[11-14]. The incidence in this study is slightly lower than the incidences reported from these centers. The reasons may be attitudinal difference on the need for and utilization of medical care by pregnant women in the environment where the study was conducted.

Moreover, evidence has shown that the incidence and related mortality from eclampsia are similar in most developing countries, which is in contrast to developed countries that have achieved lower incidences through aggressive screening and management of preeclampsia. Incidence as low as 6.2 per 10 000 births have been reported from a European country [15].

This study reveals that majority of the eclamptic patients presented pre-delivery and that most of them developed intrapartum eclampsia same as reported in some Nigerian

studies [10-14] which contrast with developed countries where postpartum eclampsia is more common due to improved detection and treatment of preeclampsia [15]

The study also reaffirms the previously reported increase in the incidence of eclampsia during the rainy season, which has been attributed to the lower average temperature and high humidity of the rainy season [16]. More studies are needed to explain these findings.

The age and parity distribution showed that eclampsia remains a disease of the young nullipara which is in agreement with other studies. Multiple pregnancy as a risk factor for eclampsia was also revealed in this study. Majority of the patients had their first episode of fit at home before presenting at the hospital as previously reported [10-13].

Majority of the patients 120 (70.2%) were delivered by emergency caesarean section for reasons of unfavourable cervix. This has been shown to significantly improve the foetal and maternal prognosis. The study also revealed a high proportion of morbidity amongst the patients as reported previously [2,10-12]. The case fatality and perinatal mortality in this study were 9.9% and 28.3% respectively which are similar to finding from other centers in Nigeria, but it is unacceptably high when compared with figures from developed countries because of the lack of adequate facilities, especially intensive care facilities in our hospitals [10,16].

Table 1: Socio-demographic characteristics of patients.

	patients (N=171)	
Age		
≤ 19	28	16.4
20 – 24	42	24.5
25 – 29	66	38.6
30 – 34	26	15.2
≥ 35	7	4.2
Not stated	2	1.2
Parity		
0	120	70.2
1	19	11.1
2	5	2.9
3	9	5.3
4	5	2.9
5 and above	7	4.1
Not stated	6	3.5
Educational status		
Nil	31	18.1
Primary education	19	11.1
Secondary education	86	50.3
Tertiary	35	20.5
Booking Status		
Booked	10	5.8
Unbooked	161	94.2
Marital Status		
Married	63	36.8
Unmarried	108	63.2

Table 2: Place of first fits and number of fits prior to onset of

Place of occurrence of first fits	No. of patients	Percentages	No of seizures	No of patients	Percentages
Home	99	57.9	1	29	17.0
TBA	35	20.5	2	69	40.3
Church	18	10.5	3	40	23.4
Health centre	8	4.7	4	21	12.3
UPTH	6	3.5	≥ 5	12	7.0
Gen. Hospital	3	1.7			
Not stated	2	1.2			

Table 3: Mode of delivery

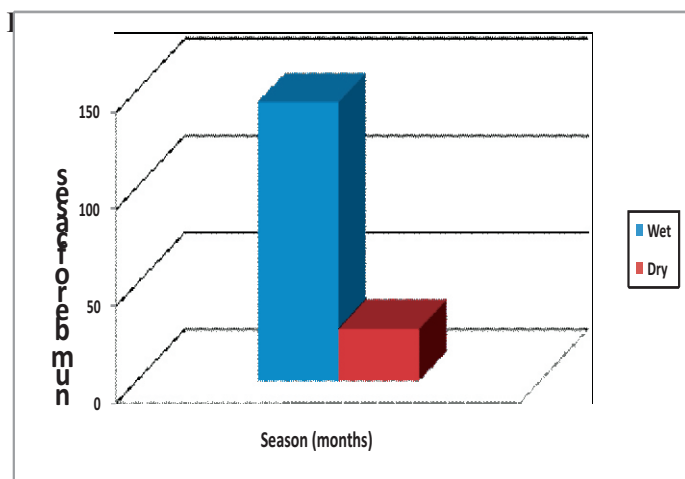
Mode of delivery	Number of patients	Percentages (%)
Caesarean section	120	70.2
Spontaneous vaginal delivery	30	17.5
Ventouse	10	5.8
Forceps	9	5.3
Assisted vaginal breech delivery	2	1.2
Total	171	100

Table 4: Maternal complications

Maternal complications	Number of patients	Percentages (%)
Hyperpyrexia	17	9.9
Death	17	9.9
Acute renal failure	16	9.4
Pulmonary oedema	15	8.8
Anaemia	12	7.0
Urinary tract infection	11	6.4
Wound infection	9	5.3
Congestive cardiac failure	4	2.3
Coagulopathy	4	2.3
Cardiovascular accident	3	1.8
Blindness	3	1.8
Placental Aruption	3	1.8
Jaundice	2	1.2
Epistaxis	1	0.6

Table 5: Fetal complications

Foetal complications	Number of foetuses	Percentages (%)
Birth asphyxia	85	46.2
Prematurity	80	43.5
Low birth weight	39	21.2
Still birth	37	20.1
Early neonatal death	15	8.2
Neonatal jaundice	6	3.3



CONCLUSION

Eclampsia is a disease of the unbooked, young primigravidae and is associated with high maternal and perinatal morbidity and mortality. This is a highly preventable obstetric calamity. We recommend that pregnant women should be educated on the need for early booking during pregnancy, early referral between medical care centers.

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