

Caesarean Section in the Delivery of Nigerian Eclamptics

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Abstract

Context: The place of caesarean section in the delivery of eclamptics has remained controversial, thereby creating the need for further studies.

Objective: To evaluate the place of caesarean section in the delivery of eclamptics using the experience at the University of Nigeria Teaching Hospital, Enugu, Eastern Nigeria.

Study Design, Setting and Subjects: Retrospective descriptive analysis of 44 ante- and intra-partum eclamptics treated at the University of Nigeria Teaching Hospital over a 4-year period.

Main Outcome Measures: Caesarean section rate, maternal mortality ratio, maternal morbidity rates, perinatal mortality rate and perinatal morbidity rates.

Results: A caesarean section rate of 91% was recorded due to superimposed ante- and intra-partum factors. The maternal and fetal outcomes were better in those who had caesarean section than in those who delivered vaginally.

Conclusion: The results suggest the need for a more liberal and early use of caesarean section in Nigerian eclamptics.

Key Words: Caesarean Section, Morbidity, Eclampsia, Nigeria. [Trop J Obstet Gynaecol, 2001, 18: 34-37]

Introduction

At the University of Nigeria Teaching Hospital [UNTH], Enugu, Nigeria, once an eclamptic has been stabilised, delivery of the fetus is carried out. Where labour is already established or the cervix is favourable, vaginal delivery is pursued; otherwise caesarean section is performed. Despite this selective approach, a caesarean section rate of 78% was recorded in a recent review of 68 cases of eclampsia at the UNTH Enugu¹. Reports from other Nigerian centres also indicate a rising caesarean section rate for eclampsia².

But the place of caesarean section in the delivery of eclamptics has remained controversial. While its liberal use in some centres enhanced both fetal and maternal outcomes³, in other centres its selective use enhanced only the fetal outcome while worsening the maternal outcome^{2,4}. These latter studies gave the impression that, in maternal interests, caesarean section should be avoided in eclampsia. But despite the desire that every eclamptic delivers vaginally, the practical question is: how often can caesarean section be avoided when managing African eclamptics? This study evaluated the place of caesarean section in the delivery of eclamptics using the experience at the University of Nigeria Teaching Hospital, Enugu, Eastern Nigeria.

Materials and Methods

The records of all eclamptics managed at the University of Nigeria Teaching Hospital, Enugu from 1st January 1994 to 31st December 1997 were obtained from the hospital's Medical Records Department. The age, parity, booking status, gestational age at presentation, number of fits before and after delivery, onset-admission and admission-delivery intervals, cervical score on admission, route of delivery, indication for caesarean section where appropriate, maternal and fetal outcome, and complications including length of hospital stay

were obtained for each patient.

In evaluating the place of caesarean delivery in eclampsia, the subjects were grouped into 4 viz:-

[a] Those with additional obstetric condition[s] increasing the risk of vaginal delivery. There was no prior labour in this group.

[b] Those who had caesarean section because of unfavourable cervix without prior labour.

[c] Those who had caesarean section after initial labour.

[d] Those who delivered vaginally.

Maternal and fetal outcome variables were compared for the 4 groups.

Results

A total of 44 antepartum and intrapartum eclamptics were treated within this period. Table 1 summarises the profile of the study subjects. Overall, their ages ranged from 17-37 years with a mean \pm SD of 26.3 ± 6.3 years. Twenty-four (54.5%) of the 44 eclamptics were primigravidae. Thirty (68.2%) of them were unbooked and were brought in as emergencies from private hospitals. In terms of the mean blood pressure on admission and the number of fits suffered, patients who had caesarean section because of an unfavourable cervix (group b) and those who had caesarean section after initial labour (group c) had similar severity of disease. The longer admission-delivery interval in group (c) compared to group (b) is noteworthy. Equally worthy of note is the lower mean gestational age in group (b) compared to group (c).

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Table 1
Baseline Characteristics of 44 Pre-Delivery Eclamptics in Enugu, Nigeria

Parameter	Group			
	(a)* (n=14)	(b)* (n=14)	(c)* (n=12)	(d)* (n=4)
	[mean ± SD or Number (%)]			
Primigravidae	0(0%)	10(71.4%)	10(82.3%)	4(100%)
Unbooked women	6(42.9%)	12(85.7%)	8(66.7%)	4(100%)
Number of Fits	1.7 ± 1.5	4.0 ± 3.0	3.5 ± 2.6	2.5 ± 0.7
SBP on Admission(mmHg)	184 ± 28	160 ± 16	165 ± 23	155 ± 35
DBP on Admission(mmHg)	123 ± 20	107 ± 16	103 ± 5	115 ± 35
MAP on Admission(mmHg)	143 ± 23	125 ± 16	124 ± 11	128 ± 24
Gestational Age (weeks)	36 ± 4	34 ± 6	38 ± 4	35 ± 7
Admitting Cervical Score	-	1.6 ± 0.3	11.8 ± 2.2	13.0 ± 0.0
Admitting Cervical Dilatation	-	0.8 ± 0.1	5.7 ± 2.9	10.6 ± 0.0
Onset-Admission Interval(hours)	5.9 ± 8.1	6.4 ± 6.1	7.8 ± 9.0	2.0 ± 0.5
Labour Duration (hours)	-	-	22.3 ± 2.0	1.3 ± 1.1
Admission-Delivery Interval(hours)	7.1 ± 2.9	5.3 ± 1.6	27.1 ± 2.1	1.3 ± 1.1
Onset-Delivery Interval (hours)	13.0 ± 3.6	11.7 ± 2.6	34.9 ± 3.2	3.3 ± 0.8

*(a) = Those with additional obstetric condition(s) increasing the risk of vaginal delivery.

*(b) = Those who had caesarean section after initial labour.

*(c) = Those who had caesarean section after initial labour.

*(d) = Those who delivered vaginally.

Table 2
Maternal Outcome in 44 Enugu Eclampsia Patients

Parameter	No Prior Labour (Groups a+b) (N = 28)	Prior Labour (Groups c +d) (N = 16)
	Maternal Mortality Ratio per 1000	143
Hospital Stay (mean ± SD in days)	13.5 ± 5.0	13.0 ± 3.0
Wound Sepsis	2 (7.1%)	6 (37.5%)
Febrile Morbidity (Temperature >38° C)	14 (50%)	8 (50%)
Primary Postpartum Haemorrhage	2 (7.1%)	5 (31.3%)
Secondary Postpartum Haemorrhage	2 (7.1%)	0 (0.0)
Abruptio Placenta	2 (7.1%)	2 (12.5%)
Puerperal Psychosis	2 (7.1%)	0 (0.0%)
Renal Failure	4 (14.3%)	2 (12.5%)
Pulmonary Oedema	1 (3.6%)	0 (0.0%)
CerebroVascular Accident	0 (0.0%)	1 (3.6%)
Heart Failure	0 (0.0%)	1 (3.6%)

Groupings as listed in Table 1

Table 3**Fetal Outcome in 44 Enugu Eclampsia Patients**

<i>Parameter</i>	<i>No Prior Labour</i> Groups a + b (N = 28)	<i>Prior Labour</i> Groups c + d (N = 17)
<i>Apgar Score (mean ± SD)</i>	5.3 ± 2.3	4.6 ± 1.4
<i>Birth Weight (kg, all babies, mean ± SD)</i>	2.3 ± 1.0	2.7 ± 0.9
<i>Birth Weight (kg, babies > 1.5kg)</i>	2.6 ± 0.8	2.8 ± 0.6
<i>Perinatal Mortality Rate per 1000 (all babies)</i>	286	375
<i>Perinatal Mortality Rate per 1000 (babies > 1.5kg)</i>	71.4	250

Groupings as listed in Table 1

Forty (90.9%) of the subjects were delivered by caesarean section. Fourteen (31.8%) subjects had caesarean section for superimposed obstetric condition without prior labour (group a). They consisted of 10 subjects with one or more previous caesarean section scars, 3 subjects with antepartum haemorrhage and 1 subject with diabetes mellitus. Fourteen subjects (31.8%) had caesarean section without prior labour because of unfavourable cervix (group b). In patients who had caesarean section without prior labour (groups a & b combined; n=28), additional indications were prolonged infertility (3), bad obstetric history (4) and intrauterine growth restriction (3). Twelve (27.3%) subjects had a caesarean section after initial labour (group c). In this group, fetal distress was an additional indication in 2 subjects. Four subjects (9.05) had forceps or vacuum delivery (group d).

When the patients were grouped according to whether or not they underwent labour, the maternal and fetal results are shown in Tables 2 and 3 respectively. The maternal mortality and treatment-related morbidity rates were worse in those who underwent labour (groups c + d) than in those who did not (groups a + b) (Table 2). The same applies to the perinatal mortality and morbidity rates for the two groups (Table 3). When the patients were further separated according to the indication for route of delivery with and without prior labour, the maternal mortality ratio was highest in those who achieved vaginal delivery (750 per 1000) and lowest in those in those who underwent section after an initial labour (83 per 1000), the long mean duration of labour 22.3 ± 2.0 notwithstanding. Excluding babies weighing less than 1.5kg (since no baby below this weight survived), the highest perinatal mortality rate was recorded in those who achieved vaginal delivery (500 per 1000) while the lowest rate was found in those who underwent caesarean section because of unfavourable cervix (0 per 1000). The wound sepsis rate was highest in those who underwent section after an initial labour (50%) while febrile morbidity was most frequent in those who had caesarean section because of unfavourable cervix (71.3%).

Discussion

The caesarean section rate of approximately 91% is much higher than the 78% recorded in a previous review from the UNTH, Enugu in 1998¹, the 73% recorded in Lagos, Nigeria in 1992², the 65% reported from South Africa in 1968³ and the 4% reported from Chicago, USA in 1967⁵, indicating a rising trend in the use of caesarean section in the delivery of eclamptics.

Approximately 32% of the eclamptics in this study (group [a]) were not suitable candidates for vaginal delivery on account of a coexisting obstetric condition. Out of another 36.4% in induced or augmented labour (groups [c] + [d]), 27.3% had caesarean section because of problems arising intrapartum. Thus in approximately 60% of the study subjects, caesarean section was clearly unavoidable because of superimposed antepartum and intrapartum factors. Those with the unfavourable cervix (group b) present problems with assessment. Zuspan *et al*⁵ induced labour in 26 American eclamptics with unfavourable cervix and achieved vaginal delivery in 25 (96.2%). They further noted increased spontaneous uterine activity in eclamptics when compared with normal patients of the same length of gestation. From their study, they concluded that in eclamptics, labour is easy to induce and that eclamptic patients respond readily to small doses of oxytocin. The 96% vaginal delivery rate achieved by Zuspan *et al*⁵ in eclamptics with unfavourable cervix is unlikely to be attainable in the African eclamptic population as can be deduced from the data in this study. Only 25% of the present study subjects who underwent labour achieved vaginal delivery after a mean labour duration of 22.3 hours (range 1-48 hours). Using this as a yardstick to measure the probability of successful vaginal delivery if the 14 women with unfavourable cervix had labour induced, only 4 of them, representing 28.6%, would probably have delivered vaginally. This affirms the need for a more liberal use of caesarean section for this indication as has been observed by other tropical workers (6).

On the whole, therefore, caesarean section may have been avoidable in only 4 (10%) of the 40 women sectioned or 8 (18%) of the 44 women studied.

The lower maternal and perinatal mortality rates in those who had caesarean section than in those who had vaginal delivery are in agreement with a report from South Africa³ and support a more liberal use of caesarean delivery in eclamptics. However, a study from Lagos, Nigeria did not find any evidence that caesarean delivery improved maternal outcome although it expedited the delivery of distressed fetuses². In this study, while a long duration of labour prior to section did not appear to worsen the maternal mortality figures, the maternal morbidity rate (in the form of surgical wound sepsis) increased markedly. The implication of this is that despite the desirability of vaginal delivery in eclamptics, unnecessary prolongation of labour to achieve this must be avoided. There should be early recourse to cesarean delivery in cases with dysfunctional labour as has been previously highlighted⁶.

It is concluded that in Nigerians as in other Africans³, eclampsia is often superimposed on other adverse antepartum and intrapartum factors. The results suggest the need for a more liberal and early use of caesarean section in Nigerian eclamptics.

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