Eclampsia in Lusaka

Dr U. Thakkar, M.B.B.S., D.G.O., M.D.
Obstetrics & Gynaecology

Mr D.S.O. Wacha, M.B.Ch.B., M.R.C.O.G.

School of Medicine
Department of Obstetrics & Gynaecology,
The University Teaching Hospital,
Lusaka – Zambia.

Reprint Request to:
Dr U. Thakkar, M.D., P.O. Box 50130, LUSAKA, ZAMBIA.

SUMMARY

A method of management of 46 cases of Eclampsia has been presented. Use of Diazepam (Valium) as a sedative and an anticonvulsant along with the approach of less conservatism, in the sense, employment of caesrean section unless delivery is imminent within 4 to 6 hours are the salient features of the study. The mortality rate of 6.52% and perinatal mortality rate of 20.0% (corrected) are analysed. It has been observed that the course of disease in this particular community is usually acute giving no alarming signs or symptoms until just before the convulsions start. The proportion of postpartum Eclampsia is 37.20% and there is need for further research. Eclampsia will remain a threat to the community until better obstetric care and improved transport facilities are offered with early acceptance of hospitalization (when indicated) on the part of patient.

INTRODUCTION

Although Eclampsia is rare in Western countries, it still remains one of the major causes of maternal and perinatal mortality in the underdeveloped countries. The methods of treatment are many and controversial, but essentially all forms of treatment aim at reducing the blood pressure, controlling fits and delivering the patient quickly to improve maternal and foetal mortality and morbility. Because of its good sedative and anticonvulsive properties (Del Valle 1961), the value of Diazepam (Valium) in the control of Eclampsia is enhanced. The aim of this study is to evaluate the efficacy of management of Eclamptics with Benzodiazepam (Valium) along with analysis of the factors influencing the

maternal and perinatal mortality when the approach of less conservatism is made.

MATERIAL AND METHOD

A retrospective review of 46 Eclamptic patients comprising 0.24% of 19272 deliveries at the University Teaching Hospital (which is the only referral hospital hospital in Central Province) during the year 1979 is presented. Excluding the three patients with untraceable records, the rest of the 43 patients were either more than 24 weeks of gestation or within their first 14 days postpartum period.

The management of an Eclamptic patient was done in the following manner:–

Immediately on admission, each patient received a Diazepam bolus of 20 mg. intravenous injection followed by 80 mgs. of the same drug in a litre of 5% dextrose drip at a rate of 30 drops/minute. The aim is to keep the patient well sedated but easily aroused so that nursing is not a problem.

The patient was reviewed at three hourly interval to assess the level of consciousness. The rate and the dose was adjusted accordingly but not to exceed the limit of 30 drops/minutes. The patients with uncontrolled fits received paraldehyde 10 ml in over and above Diazepam regime.

To control the blood pressure in patients with high blood pressure Methyldpa (Aldomet) 500 mg I.M. diluted in 150 ml of 5% dextrose was infused within 30 to 60 minutes, and repeated six hourly if required, to maintain the diastolic blood pressure between 90 and 100 mm of Hg. The dose limit of 400 mg in 24 hours was not exceeded.

Once the patient was well sedated a vaginal examination was performed to decide the mode of delivery with an aim to deliver the patient by the quickest and safest method for both mother and baby.

Those patients likely to deliver within 4 to 6 hours, were chosen for vaginal delivery and artificial rupture of membranes followed by oxytocin infusion in standard dose was started. In all cases of anticipated vaginal delivery, second stage was assisted with vaccum or outlet forceps. In rest of the cases, caesarean section under general anasthesia was the procedure of choice.

RESULTS

(i) Maternal Age

It is remarkable that 72.10% of the cases are under 20 years of age. The youngest patient of the series being 14 years and the oldest being 41 years.

(ii) Gravidity

Incidence of Eclampsia was significantly higher in primigravida (70%) as compared to multigravida (30%).

(iii) Type of Antenatal Care

Eight patients were booked at the University Teaching Hospital, 13 attended peripheral clinic at least once and 22 (51.16%) did not have any antenatal care.

(iv) Type of Eclampsia

Twelve patients (27.90%) presented with antepartum, 15 (34.88%) with intrapartum and 16 (37.20%) with postpartum Eclampsia.

Table III represents the comparisons of types of Eclampsia in various series.

(v) B.P. When Fitted

Table IV shows the recorded B.P. of the patients at the time of admission or convulsion.

(vi) Obstetric Management

Table V represents the mode of delivery in Antepartum and intrapartum Eclamptics. 66.6% (8 patients) cases of Antepartum Eclampsia were delivered by lower segment caesarean section. One patient died undelivered. 13.33% (2 patients) of Intrapartum Eclampsia were delivered by lower segment caesarean section, while 59.99% (9 patients) had assisted second stage delivery.

The indications for L.S.C.S. in two Intrapartum Eclamptic primigravidae were prolonged first stage of labour with B.P. 160/100 in one and undiagnosed C.P.D. in second stage of labour in the other which was missed by the junior staff. Both of them did not have full benefit of medical treatment.

General anasthesia was preferred for all operative deliveries. There were no difficulties with the caesarean sections and there was no operative mortality. Injection Pethdine 50 mg I.M. was instituted to all operated patients over and above the regime treatment as an added analgesia for postoperative pain.

TABLE I

MATERNAL AGE

Age	Number of Patients	Percentage
Below 15 years	7	16.27
16 – 20 years	24	55.83
21 – 25 years	9	20.93
26 – 30 years	1	2.32
31 – 35 years	1	2.32
36 years and above	1	2.32

TABLE II

Gravidity	Number of Patients	Percentage
Primigravidae	30	69.8
Multigravidae	13	30.2

TABLE III

COMPARISON OF TYPES OF ECLAMPSIA IN VARIOUS SERIES

Author	Antepartum	Intrapartum	Postpartum
Helen Wightman et al Cardiff (1978)	32.55%	39.53%	27.90%
Mario Lopez Llera Mexico (1967)	43%	40.2%	16.8%
D.A. Ampofo Ghana (1971)	23.2%	39.3%	37.5%
A.A. Akinkugbe Nigeria (1971)	50%	15.62%	34.37%
O. Ogunbode Nigeria (1977)	14.6%	42.2%	44.2%
Present Series	27.9%	34.88%	37.20%

MATERNAL MORTALITY

Out of 46 patients 3 died, the rate of maternal mortality being 6.52%. Two of these three patients were booked at UTH clinic and refused admission at a stage when they developed alarming signs.

The first patient was a 14 years primi gravidae, admitted in second stage of labour with Blood pressure of 170/120, albuminuria ++ and oedema + in an unconscious state and fitted 7 times before admission. She was delivered by application of low forceps of a 2.9 kg FSB. She never regained consciousness and was put on artificial respiration but died after one week. Clinically, she was diagnosed as a case of cerebro vascular accident but relatives refused postmortem examination. The second patient was a 36 years old, PIG2 admitted in an unconscious state with history of fits and B.P. of 210/140, albunuria +++ and gross oedema at 28 weeks of gestation. The general condition of the patient was

TABLE IV

B.P. (At the time of Admission or convulsion)		Antepartum	Intrapartum	Postpartum	Total No. of Patients	Percentage
Diastolic 90 mm or Hg or less	Primi	3	4	6	13	43.33
	Multi	1	0	1	7	15.38
Diastolic more than 90 but less than 110	Primi	4	6	5	15	50
	Multi	1	4	3	8	61.54
Diastolic 110–130 mm of Hg.	Primi	1	1	0	2	6.66
	Multi	0	0	1	1	7.69
Diastolic 130 mm and above	Primi	0	0	–	–	
	Multi	2	–	–	2	15.38

TABLE V

OUTCOME OF PREGNANCY

	S.VD (With or Without Syntocinon)	Assisted Second Stage	L.S.C.S.	Undelivered
Antepartum	3 25%	–	8 66.66%	1 8.33%
Intrapartum	4 26.66%	9 59.99%	2 13.33%	– –

S.VD = Spontaneous vaginal delivery.

TABLE VI

MODE OF DELIVERY AND MATERNAL MORTALITY (UNCORRECTED)

Mode of Delivery	No. of Pts.	No. of Babies	Maternal Mortality	Foetal Loss	Maternal Mortality Percentage	Perinatal Mortality Percentage
Caesarean Section	10	12 (2 set of twins)	Nil	2	0	16.7
Vaginal Delivery at hospital	24	26 (2 set of twins)	2	11	6.25	42.7
Born before Admission	8	8	Nil	1	0	12.5
Died undelivered	1	1	1	1	100	100

TABLE VII

OBSTETRIC OUTCOME AND PERINATAL MORTALITY

	Antepartum Eclampsia			Intrapartum Eclampsia			Postpartum Eclampsia		
	Alive	*FSB*	*NND*	*Alive*	*FSB*	*NND*	*Alive*	*FSB*	*NND*
Less than 1500 gms	–	–	2	–	2	1	–	–	1
1600 to 2500 gms	5	1*	0	1	1**	1	6	–	–
2660 to 3500 gms	4	–	–	6	2*	2	8	–	1
3600 to 4500 gms	1	–	–	0	–	0	1	–	–
Total	10	1	2	7	5	4	15	-	2
Total babies born	13 (12 + 2 sets of twins) 1 pt. died undelivered *Associated with APH			16 (15 + 1 set of twins) *Admitted in second stage with absent FHS. **Retained second twin			17 (16 + 1 set of twins)		
Perinatal Mortality	23.07%			56.25%			11.76%		
Corrected Perinatal Mortality	0%			11.11%			10%		

too poor to do caesarean section, and she died undelivered after 10 hours. The postmortem report showed massive Rt. cerebral and cerebellar haemorrhage with hypertensive heart.

The clinical record of the third patient is missing but her postmortem report showed a medium sized clot in the LF. occipital lobe of cerebral hemisphere.

PERINATAL MORTALITY

Table VIII represents the perinatal mortality. There were 4 sets of twins. As one patient died undelivered, total number of the babies born was 46. Total number of babies born alive was 32. There were 6 fresh still births (FSB) and 8 babies had neonatal death; their uncorrected perinatal mortality

TABLE VIII

COMPARISON OF MATERNAL AND PERINATAL MORTALITY IN VARIOUS SERIES

Author	Country	Maternal Mortality	Perinatal Mortality
E.P. Frisch	– Sweden	7%	40%
A.P. Akinkugbe	– Nigeria	9.4%	26.2%
D.A. Ampofo	– Ghana	4.9%	18.7%
Helen Wightman et al	– Cardiff	Nil	21.3% (corrected)
Derek Crickton I.	– South Africa	8.4%	27.6%
Mario Lopez Llera	– Mexico	10.3%	27.6%
Present Series	– Zambia	5.62%	20% (corrected)

being 30.43%. In the present series, corrected perinatal mortality is 20%.

Out of 10 cases of L.S.C.S. (8 patients Antepartum + two patients Intrapartum) there were two sets of undiagnosed twins at the time of caesarean. Thus totally twelve babies were born by caesarean sections. Two babies died in neonatal period. One baby was premature by dates and weight (less than 1.5 kg), the other was delivered flat after mother was in labour for more than 14 hours with undiagnosed C.P.D. The perinatal mortality in patients delivered by L.S.C.S. was 16.66%.

Out of 6 FSB (all delivered vaginally) 2 FSB patients were brought in second stage of labour with absent FHS. Other two FSB were less than 1500 gm. Fifth FSB of 2.1 kg had antepartum abruptio placentale, and the sixth FSB of 2.3 kg was a case of twin pregnancy were the first baby was delivered at home and mother was brought to hospital as a case of intrapartum fits with second twin undelivered. Her FHS disappeared by the time she was stablised with medical treatment.

50% of neonatal deaths (4 out of 8 babies) occurred amongst infants weighing less than 1500 gm. The prematurity rate (wt. less than 2500 gm), in the group under study was 45.7% (21 out of 46 babies).

DISCUSSION

The frequent occurrence of Eclampsia with a high maternal and perinatal mortality are associated with underdeveloped countries where antenatal care is for several reasons not adequate (Menon 61, 69) 51.16% seems to be significantly high percentage not having any recognised antenatal care. However, long distance, lack of transport facilities, tribal customs and illiteracy seems to be operating factors for non attendance.

While incidence of Eclampsia is 72/100,000 deliveries in specialist units in Cardiff (Helen – et all 1978), incidence of Eclampsia seems to be significantly high from African countries as reported from Ghana 819/100,000 (Ampofo 1971), Nigeria 809.4/100,000 (OGUBODE 1977) and present series 238.7/100,000.

In quite contrast to the Maxican and Cardiff series, (Table III) the incidence of postnatal Eclampsia is quite high which is comparable to the series from West Africa (Ghana, Nigeria). The significant prevalence in the incidence of postnatal Eclampsia as reported from various parts of Africa, supports the view of recent relative increase in the proportion of postpartum eclampsia by some authors (Bhose 1964).

The average maternal mortality rate in eclampsia is reported between 2 to 7.1% (Crichton and Quinlan 2962). Our maternal mortality rate of 6.5% includes two moribun patients who had refused admission at the time of alarming signs. There was no maternal mortality in the postpartum group as compared to 6.52% maternal mortality in antepartum and intrapartum group. It seems that severity of postpartum eclampsia is less and is more amenable to treatment.

The corrected perinatal mortality (eliminating babies weighing less than 2500 gms and those who died in utero before admission) of 20% is quite comparable to the series from Cardiff (Table VIII) and seems to be lower than some of other reported series from African countries.

The good perinatal mortality figures indeed reflect the relative law incidence of antepartum eclampsia and also suggests an acute form of the disease without prolonged rise of blood pressure, which in turn is fatal to mother and foetus by endangering placental circulation.

Menon (1961) Crichton (1968) reviewing a large number of eclampsia patients (321 and 358 respectively), regard a diastolic blood pressure below 90mm as rare association with eclampsia.

Although the present series is a small sample, eclampsia in Lusaka seems to occur at a much lower blood pressure and without any alarming signs specially in young primigravidae as compared to other places. This is probably because of marriage and pregnancy taking place at a relatively young age in this community. Moreover, the average start pregnancy with a blood pressure of 90/50 (Lawson 1967). About 93.33% primigravidae and 76.42% multigravidae had fitted below the so called critical level of 160/100 mm of Hg Table IV at which level the complications usually occur in pre-eclampsia (Ampofo 1971).

Although prompt control of eclamptic convulsions is of vital importance in reducing the risk of death from plumonary oedema and cardiac failure, further reduction in maternal and perinatal mortality can only result, if pregnancy is terminated earlier, as longer the interval between first fit and delivery the higher the mortality (Menon 1961). Our results (Table VII) of 100% maternal and perinatal mortality in undelivered group, 6.25% maternal and 2.7% perinatal mortality in the group where patient has vaginal delivery and NO maternal mortality with only 16.7% perinatal mortality in the group where pregnancy was terminated by caesarean section do prove this fact. We therefore advocate the approach of less conservatism in support of that Crichton (1968) and Lopez-Llera (1967).

The use of Diazepam (Valium) therapy has proved to be very effective with low incidence of recurrence of fits. Only three (6.97%) of 43 patients needed paraldelyde over and above Diazepam.

The advantages of this therapy are low cost, easy availability, easy handling by any doctor and easily arousable patients with no requirement for special nursing care.

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