

## A STUDY OF ECLAMPSIA

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### SUMMARY

A retrospective study of 737 cases of eclampsia managed at Lokmanya Tilak Municipal Hospital, Bombay, between 1975 and 1992 was carried out. The incidence of eclampsia in the study was 0.72%. Antepartum eclampsia was the most frequent. Most cases occurred after 37 weeks of gestation. 9.7% patients underwent Caesarean section. Uncorrected perinatal mortality was 35.3 per 100. Maternal mortality rate was 10.72%, contributing to 14.08% of total maternal deaths. To bring down the incidence and complications of eclampsia, antenatal and intranatal coverage have to be disseminated at the rural and community level.

### INTRODUCTION

Eclampsia is an obstetric enigma. Though it has almost been eradicated from the developed world, it continues to be a major cause of maternal and fetal mortality and morbidity in the developing countries.

The real challenge of eclampsia has not been met. In spite of considerable progress made in the field of obstetrics, the incidence of eclampsia and its consequent complications has not decreased significantly in our country over the past few

decades. It is indeed sad that even today Antenatal care is available only to a fraction of our rural population.

However, the management of eclampsia still poses a fascinating challenge to the obstetrician, requiring the greatest skill, judgement and patience.

### AIMS & OBJECTIVES

This study was aimed at analysing the cases of eclampsia. This included a study of the incidence, patient profile and type of eclampsia. In addition the mode of delivery, maternal and fetal outcome were also studied.

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**MATERIAL AND METHODS**

The present study comprises of retrospective analysis of 737 cases of eclampsia which were managed at the Lokmanya Tilak Municipal General (L.T.M.G.) Hospital, Bombay, from January 1975 to December 1992, a period of eighteen years.

The study includes all the patients admitted directly and also those referred from peripheral centres and private doctors. Such transfers comprised 76% of the total cases, many of them brought to the hospital in a moribund state. L.T.M.G. Hospital is a tertiary teaching institute, and the first tertiary care centre one encounters on way to Bombay city from the periphery or suburbs. Hence it has a vast catchment area and handles most of the transfers from the peripheral and rural areas, especially the district of Thane. In addition, no patient is refused admission.

All cases were managed by residents under guidance of the lecturer on duty. There are standard protocols for the treatment of eclampsia in the hospital,

which are changed from time to time. For all patients a wide-bore intravenous access was established, and continuous bladder catheterisation done with Foley's catheter. Central venous pressure line was taken in the more serious cases. Labour was induced or augmented in all cases of antepartum and intrapartum eclampsia as soon as the patient stabilised. While lytic cocktail was used in the earlier part of the study as the anticonvulsant regimen of choice (as was thiopentone in the treatment of moribund cases), magnesium sulphate (by intravenous and intramuscular route) was almost exclusively used in the later years of the study.

**RESULTS & DISCUSSION**

(Table I) The incidence of eclampsia in recent studies varies between 0.05% and 0.2% (Sibai et al 1981, Wightman et al 1978, Porapakham 1979). The higher incidence in our study is because of the high transfer/referral rate and poor antenatal coverage in the rural areas draining into our hospital.

**TABLE I**  
**INCIDENCE OF ECLAMPSIA**

Years	No. of Cases	Incidence (%)
1975-80	243	0.83
1981-84	174	0.79
1985-88	197	0.77
1989-92	123	0.53
<b>Total</b>	<b>737</b>	<b>0.72</b>

93.35% of the cases were not booked for antenatal care; the mean age of the patients was 21.28 years; 62.5% were primigravidae, while 9.9% were grand multiparae. While the period of gestation was more than 37 weeks in 61.2% of cases, in 8.7% it was less than 28 weeks. Similar results have been reported in other studies (porapakkham 1979).

(Table II) Antepartum eclampsia is the commonest worldwide, while postpartum is the most infrequent (Porapakkham 1979,

Lopez et al 1976).

(Table III) The prophylactic use of vacuum or forceps to cut short the second stage of labour has gained popularity over the years. Moreover, these days obstetricians are less hesitant to do a Caesarean section in cases of eclampsia, which is probably due to progress in the field of anaesthesiology and intensive care. In other studies, the incidence of Caesarean section varies from 7% (Porapakkham 1979) to 49% (Sibai et al 1981).

TABLE II  
TYPE OF ECLAMPSIA

Type	No. of Cases	%
Antepartum	377	51.15
Intrapartum	276	37.45
Postpartum	84	11.4

TABLE III  
MODE OF DELIVERY

Years	Vaginal Delivery	Forceps/ Vacuum	LSCS	Craniotomy
1975-80	172(73.2)	59(22.8)	3(1.3)	1
1981-84	92(52.9)	68(39.0)	14(8.0)	-
1985-88	85(43.4)	77(39.3)	34(17.3)	-
1989-92	46(38.3)	55(45.8)	19(15.8)	-
Total	395(54.5)	259(35.7)	70(9.7)	1

Died Undelivered : 15

\* Figures in parentheses indicate percentage.

TABLE IV  
PERINATAL OUTCOME

Years	1975-80	1981-84	1985-88	1989-92	Total
Total Births	235	174	196	120	725
Preterm					
Still Birth	21	20	14	27	82
Full Term					
Still Birth	31	16	8	7	62
Pre Term					
Live Birth	26	17	22	30	95
Full Term					
Live Birth	157	121	152	56	486
Neonatal Death					
Number	50	29	21	16	116
%	21.3	16.7	10.7	13.3	16.0
Perinatal Death					
Number	102	65	43	50	260
%	42.6	36.2	21.9	41.7	35.3

TABLE V  
MATERNAL MORTALITY IN ECLAMPSIA

Period	Eclampsia Cases	Maternal Mortality (%)
1975-80	243	19(7.82)
1981-84	174	13(7.48)
1985-88	197	29(14.72)
1989-92	123	18(14.63)
Total	737	79 (10.72)

(Table IV) A review of recent literature shows the perinatal mortality in eclampsia as between 13.3% and 21.5% (Sibai et al 1981, Prichard et al 1984, Wightman et al 1978, Porapakham 1979). Our perinatal

mortality rate is comparable to that described by Chesley in 1941 (25-35%)!

(Table V) Maternal mortality in eclampsia varies between 0-13.5% (Prichard et al 1984, Fish et al 1972, Porapakham 1979,

Lopez et al 1976, Wightman et al 1978, Sibai et al 1981, Menon 1961, Lean et al 1968), and maternal deaths in eclampsia contributes to 9.6 to 24.3% of total maternal deaths (Atrash et al 1970, Rochat et al 1988, Fish et al 1972, Hibbard 1973). In our study, 14.08% of total maternal deaths were due to eclampsia. It is seen that there is an increase in maternal mortality by almost two-fold in 1985-92 as compared to 1975-84: this is possibly due to the improvement in transport and communications whereby many patients today manage to reach the hospital alive, though in a serious state.

The maternal mortality rate was 6% (n = 215) when magnesium sulphate was used as the anticonvulsant, compared to 12% (n=474) when lytic cocktail was used. The mortality rate with lytic cocktail in Menon's study (1961) was 2.2% (n=402), though such low mortality has not been confirmed by others. The mortality rate with magnesium sulphate is reported to be between 0.4-3.4% (Pritchard et al 1984, Zuspan et al 1964). Our experience with diazepam is very limited, and phenytoin has not been tried out extensively in eclampsia, though the results of its use in severe pre-eclampsia is highly encouraging. In our study the maternal mortality rate associated with thiopentone used was 96% (n=18) in contrast to the maternal mortality rate of 7.6-16% in other reports (Browne 1950, Menon 1961): but then in our study only the moribund patients were put on thiopentone therapy.

Cardio-respiratory causes appear to be the commonest cause of death in

eclampsia in our study, contributing to 40.5% of the total deaths in eclampsia. This is in sharp contrast to the reports from Western countries implicating cerebrovascular and central nervous system complications as the commonest cause of death (Atrash et al 1970, Porapakham 1979, Hibbard 1973).

### CONCLUSION

The incidence of eclampsia is going down, but very slowly. The maternal mortality rate is still much above acceptable limits. The main reasons for such high mortality in a tertiary level centre equipped with sophisticated instruments is the late referrals. The distances are large in our country and referral to tertiary care centres is not the answer to the problem. In order to achieve Health for All by 2000 A.D., our aim should be to reach out to as much population as possible, to extend 100% antenatal coverage and 100% supervised deliveries (at least by trained birth attendants). The thrust of the health care planning should shift to the community and first-referral-units level. This is the only way to correct our lopsided health system which fails to provide the desired results, especially in the field of obstetrics.

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