

**A CLINICAL REVIEW OF ECLAMPSIA
IN A RURAL MEDICAL COLLEGE OF WEST BENGAL**

(A Three and Half Year Study)

By

M. K. SANYAL, A. BHATTACHERJEE AND A. PATTANAYAK

SUMMARY

In an attempt to assess and compare the incidence and other aspects of eclampsia, as found in a three and half years study in a rural Medical College of West Bengal, Bankura Sammillani Medical College, Dist. Bankura, the following were the observations:

Total number of deliveries during this 3½ years from January 1981 to June 1984 was 22,055.

Total number of cases with eclampsia delivered during this period 594 i.e. 2.6% of all deliveries; most of the cases were intra-partum accounting for 61.6% of all eclamptics.

Most of the patients with eclampsia were in the 2nd and 3rd decade of life as against total number of mothers delivered during this period who belonged mostly in the 3rd decade of life.

Primigravidae predominated in eclamptic series whereas multi-gravidae predominated the total series.

History of toxæmia could be elucidated in 9% of cases of eclampsia.

Almost 94% of the cases with eclampsia did not have any antenatal checkup.

The total maternal death rate in the present series of 22,055 cases was 1.13% and eclampsia was responsible for 41% of all deaths. Again 17.1% of the eclamptics did not survive as against 6% death rate in Eden Hospital series.

A comparison has been drawn in respect to different aspects of eclampsia as noted and reported from Eden Hospital, Medical College, Calcutta, the biggest urban Medical College of Eastern India, during the 2nd half of 1973, by the same author.

Introduction

In any country maternal deaths due to hazards of pregnancy and labour directly

reflect the standard of maternity services and hospital facilities available, not to speak of the socio-economic status. Green Armytage used to refer, "incidence of eclampsia is an index of civilisation in a country". India, at present, has entered

From: B. S. Medical College, Bankura.

Accepted for publication on 22-8-87.

space age and is sending men into space on one hand, and on the other hand, her women folk are still dying a premature death from eclampsia.

This study was undertaken to compare the incidence and other aspects of eclampsia as has been found in a rural Medical College of West Bengal with that found in an urban Medical College and at the same time the largest Medical College of West Bengal, to highlight the diversities that still exist between rural and urban India.

Material and Methods

This paper presents the different clinical profile of eclamptic cases, admitted in Bankura Sammilani Medical College and Hospital, Bankura, West Bengal, during a period of three and half years from January 1981 to June 1984. All the patients were from low socio-economic status and were inhabitants of rural areas, as B.S. Medical College serves a large rural population of West Bengal from the same and neighbouring districts and city Medical College are out of bounds to them.

A clinical review of eclampsia cases was done by the same author in 1973 from January to June in Eden Hospital, the G. & O. Department of Medical College, the largest Medical College of Eastern India. A comparative study has been carried out with the findings of the two Medical Colleges on eclampsia.

Results and Discussion

Total number of deliveries recorded during the three and half years period from January 1981 to June 1984 was 22055 and total number of eclampsia cases admitted during this period was 594 i.e. 2.69% of total (Table I). The

yearwise distribution of eclampsia cases was more or less equal during these years ranging from 2.42% to 2.90%. This shows that there was no appreciable decrease in the incidence of eclampsia in three advancing years.

TABLE I

Total Number of Cases of Eclampsia Delivered During Three and Half Years From January 1981 to June 1984

Year	Total No. delivered	Total No. of eclampsia	Percentage
1981	6104	177	2.89
1982	6483	157	2.42
1983	6306	168	2.66
1984	3162	92	2.90
<hr/>			
Total			
r. Sr.	22,055	594	2.69
E.H. Sr. (6 months)	5,136	65	1.26

Pr. Sr.—Present Series.

E.H. Sr.—Eden Hospital Series.

The Eden Hospital series (E. H. series) showed only 1.26% of cases of eclampsia out of 5,163 cases delivered during 6 months period in 1973. This clearly indicates that rural Bengal is still having more number of cases of eclampsia than the urban one even after 10 years. Lahiri (1970) observed the incidence of eclampsia in Eden Hospital, during the period of 1960 to 1968 to be 0.92%, and Dutta (1981) from another Calcutta Hospital reported an incidence of 1.15% but Sarkar (1986) reported 2.6% incidence from a District Hospital in North Bengal and a still higher incidence of 4.62% was reported by Goswami and Goswami (1984), from a subdivisional Hospital of South Bengal. This clearly indicates that different corners of rural Bengal are still having considerably

more number of cases of eclampsia than the urban Bengal even after 15 years (Table I).

The monthly distribution of cases of eclampsia showed a definite fall in the incidence in June and July and there was distinct rise in the incidence during October, November, December and January (Table II). This is probably proportional to the seasonal variation in the total number of deliveries in the year. Goswami and Goswami (1984) and Sarkar (1986), also recorded similar seasonal variation from other corners of rural Bengal (Table II).

Pregnant mothers in the 2nd and 3rd decade of life (Table III) were greater sufferers of eclampsia than in the 4th decade having 4.6%, 2.37% and 0.46% incidence respectively which is actually a reflection of preponderance of total pregnant in the 2nd and 3rd decade.

The E.H. series also showed more or less similar frequency. Goswami and Goswami (1984) and Sarkar (1986), had similar experiences from South Bengal and North Bengal respectively (Table III).

Primigravidae (Table IV) appear to be the worst victim for eclampsia having

TABLE II

Distribution of Cases of Eclampsia in the Present Series According to Month of Admission

Months	Year 1981	1982	1983	Total
January	14	17	23	54
February	13	12	8	33
March	10	14	6	30
April	16	5	10	31
May	14	9	8	31
June	13	7	6	26
July	2	7	11	20
August	10	9	16	35
September	11	9	10	30
October	23	19	13	55
November	26	18	27	71
December	25	31	30	86
Total	177	157	168	502

TABLE III

Distribution of Cases of Eclampsia According to Age Group

Year	Age below 20 years			21 years-30 years			31 years to above		
	Total/Eclamp/Percentage			Total/Eclamp/Percentage			Total/Eclamp/Percentage		
1981	2124	102	4.8	2272	72	3.1	1708	3	0.17
1982	2083	94	4.5	2653	52	1.9	1750	11	0.62
1983	2550	114	4.5	2370	46	1.9	1386	8	0.57
1984	791	39	4.9	2004	51	2.4	367	2	0.46
Total									
Pr. Sr.	7545	349	4.62	9299	221	2.37	5211	24	0.54
E.H. Sr.		44			15			6	

Pr. Sr.—Present Series E.H. Sr.—Eden Hospital Series.

TABLE IV
Distribution of Cases of Eclampsia According to Parity

Primigravida				Second Gravida			Third Gravida and above		
Total/Eclamp/Percentage				Total/Eclamp/Percentage			Total/Eclamp/Percentage		
1981	2131	130	6.1	1973	38	1.92	200	9	4.5
1982	2218	122	5.5	3265	30	0.92	1000	5	0.5
1983	2250	135	6.0	3306	28	0.85	750	3	0.4
1984	1076	70	6.5	800	14	1.75	1286	8	0.62
Total									
Pr. Sr.	7576	457	6.0	9344	110	1.17	5036	25	0.49
E.H. Sr.		50	77.0	—	5	7.5	—	10	15.5

Pr. Sr.—Present Series.
E.H. Sr.—Eden Hospital Series.

6% incidence of total pregnant, second gravidae were second in rank having 1.17% incidence and multigravidae had only 0.46% incidence. So there was a sharp fall in the frequency with the increase in parity though the 2nd gravidae predominated in the total pregnant.

The E.H. series also revealed similar incidence, primigravidae comprising the bulk of their series. Ghose and Das (1980), Dutta (1981) from a prominent Calcutta Hospital and Goswami and Goswami (1984) and Sarkar (1986) from rural Hospitals from South Bengal and North Bengal respectively, observed the same (Table IV).

The present series recorded (Table V) more number of intrapartum eclampsia (61.6%) followed by antepartum eclampsia (23.7%) and postpartum eclampsia had the lowest incidence (14.6%). This is probably due to the fact that most of the patients came late after onset of fits and labour had started spontaneously. Sarkar (1968) also observed more number of cases of intrapartum eclampsia, but Goswami and Goswami (1984) observed differently from that of present series and had similar observation with that of E.H. series.

The E.H. series had recorded more number of antepartum eclampsia (70.7%)

TABLE V
Distribution of Cases According to Types of Eclampsia

Year	Antipartum	Intrapartum	Postpartum	Total
1981	47	100	30	177
1982	33	98	26	157
1983	41	105	22	168
1984	20	63	9	92
Total (Pr. Sr.)	141 (23.7)	366 (61.6)	87 (14.6)	594
E.H. Sr.	46 (70.7)	5 (7.6)	14 (21.5)	65

Pr. Ser. — Present Series.
E.H. Ser. — Eden Hospital Series. Figures in Parenthesis indicate Percentage total.

followed by postpartum (21.5%) and intrapartum (7.6%) eclampsia. Incidence of postpartum eclampsia was definitely less in the present series (Table V).

Past history of convulsion (Table VI) was obtained in 2.2% in the present series having more or less equal incidence (3%) with E.H. series. History of convulsion in the non-pregnant state was obtained in 1.7% cases; in E.H. series it was much higher (6%). History of toxæmia could be elicited in 9.01% cases in the present series where as it was much lower in the E.H. (3%) series. 94.4% of these eclamptics did not have any antenatal check up whereas in the E.H. series it was only 83% (Table VI). Similar were the observations of Dutta, 1981 (93.4%) and Sarkar 1986 (98%) (Table VI).

Oedema (93%), hypertension (97%) and albuminuria (80.8%) were not present in all the cases. These were pre-

sent in various combinations with fits or convulsion to justify the diagnosis of eclampsia (Table VII).

In the present series (Table VIII) out of 2205 deliveries the total maternal death rate was only 1.13% and of these 0.46% i.e. nearly 41% of deaths were shared by the eclamptics. Again 103 cases died out of 594 cases (17.1%) due to some complications arising from eclampsia, but E.H. series recorded only 6% death rate in their 65 cases. This indicates that the death rate due to eclampsia in the rural Medical College is much higher when compared to the E.H. series. Lahiri (1970) reported 8.3% maternal deaths due to eclampsia in Eden Hospital during the period of 8 years from 1960 to 1968 in 1017 cases of eclampsia, which is also much less than that seen in the present series. The papers presented at the XVth All Indian Obstet.

TABLE VI
Distribution of Cases According to Suggestive History in 594 Eclamptics

	Pr. Sr.		E.H. Sr.	
	No.	%	No.	%
History of Convulsion in Family	13	2.2	2	3
H/O Convulsion in Non-pregnant state	10	1.7	4	6
H/O Toxaemia	53	9.01	2	3
Antenatal Check up	33	5.61	11	17
No Antenatal Checkup	561	94.39	54	83

TABLE VII
Presenting Features in Eclamptics-Year Wise

Year	Oedema	H.B.P.	Albuminuria	Convulsion
1981	160	173	151	177
1982	151	157	124	157
1983	162	166	130	168
1984	80	85	75	92
Total	533	581	480	594
%	93	97	80.8	100

TABLE VIII
Distribution of Cases of Maternal Deaths

Year	Total deliveries	Total maternal deaths	Death due to Eclampsia
1981	6,104	75 (1.3%)	28 (37.3%)*
1982	6,483	74 (1.14%)	33 (44.59%)*
1983	6,306	71 (1.12%)	26 (36.6%)*
1984	3,162	30 (0.94%)	16 (53.33%)*
Total (Pr. Sr.)	22,053	250 (1.13%)	103 (17.3%)*
Total (E.H. Sr.)	5,163		4 (6%)*

% of Death due to Eclampsia out of total maternal deaths-41.2%.

% of Death due to Eclampsia out of total Deliveries (22,055)-0.46%.

% of Death due to Eclampsia out of total Eclamptics-17.3%.

*—Indicate per cent of total eclamptics.

and Gynaec. Congress at Goa, 1969, reveal that the mortality rate varied from as high as 15.2 (Varanasi) to as low as 3 in Bombay and Calcutta with an average of round about 7 in the South India and Delhi (Lahiri, 1970). Recent studies by Goswami and Goswami (1984) and Sarkar (1986), showing 19.6% and 9.87% maternal deaths respectively and the present study reveal that the maternal deaths from eclampsia are still high in different parts of rural Bengal even after 15 years (Table VIII).

The principal causes of death in eclampsia as ascertained by clinical findings (Table IX) were pulmonary oedema (46.6%), acute myocardial failure and cerebral haemorrhage (11.6% each) anuria (7.8%), hyperpyrexia (5.8%), postpartum haemorrhage (4.8%) and asphyxia, obstetric shock and accidental haemorrhage (3.9% each). Lahiri (1970), Goswami and Goswami (1984) and Sarkar (1986) also reported the principal causes to be cardiac failure pulmonary oedema, cerebral haemorrhage and shock.

TABLE IX
Distribution of Cases of Deaths in 103 Eclamptics
According to Causes

	No.	%
Pulmonary oedema	48	46.6
Acute Myocardial Failure	12	11.6
Cerebral Haemorrhage	12	11.6
Anuria	8	7.8
Hyperpyrexia	6	5.8
Postpartum Haemorrhage	5	4.8
Asphyxia	4	3.9
Obstetric Shock	4	3.9
Accidental Haemorrhage	4	3.9
Total	103	100

References

1. Dutta, G. P.: J. Obstet. Gynec. India, 31: 408-13, 1981.
2. Ghose, N. and Das, B.: J. Obstet. Gynec. India, 30: 595-599, 1980.
3. Goswami, B. and Goswami, B. K.: J. Obstet. Gynec. India, 34: 1012-1015, 1984.
4. Lahiri, B. C.: J. Obstet. Gynec. India, 20: 336, 1970.
5. Sarkar, B.: J. Ind. Med. Assoc. 84: 338-340, 1986.