REVIEW OF ECLAMPSIA CASES (369 cases)

by

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Introduction

Eclampsia still stands as one of the major complications of pregnancy in the developing countries of the world. Evidence of eclampsia as a major cause of maternal mortality indicates a continuing need for reviewing the line of management. Maternal mortality varies widely at different places with almost identical management indicating that there may be important basic differences in the obstetric populations studied. Socioeconomic conditions of a nation and the quality of the obstetric care have a remarkable bearing on the incidence of this disease and on maternal and perinatal losses.

Material and Methods

A clinical review of 369 cases of eclampsia admitted to Government Maternity Hospital, Hyderabad, from 1st January, 1970 to 30th June, 1972, is presented. Patients with 24 weeks' pregnancy and over, and those of first 14 days postpartum, with a history of convulsions due to eclampsia are included. Patients with convulsions due to other causes are excluded. Most of our patients were from low socioeconomic group and were emergency admissions unlike in the developed countries. Forty per cent of the patients were from rural areas. Of the 369 cases, 319 were antepartum and 50 were postpartum eclampsias. The treatment followed in our hospital is as follows:

On admission:

I. 1. Pethidine 100 mg., in 20 cc. 5% Glucose stratum with largactil 25 mg—is given I.V. very slowly. Pulse and B.P. to be recorded before and after giving this.

2. Phenergan 50 mg. I.M.

3. Pethidine 200 mg. in 1000 cc. of 20% Dextrose is given as a slow drip in 24 hours (at the rate of 10-20 drops/minute).

II. Later, every 4 hours largactil 50 mg., and Phenergan 50 mg. I.M., is given alternately. Each time before and after giving the drug, B.P., and pulse are recorded.

III. *Antibiotics:* Streptopenicillin, 1 vial I.M., is given daily to start with and later changed to broad spectrum, if required.

IV. *Diuretics:* Lasix (Frusemide) 20 mg., I.V., stratum (1 amp). is given and repeated every 12 hours or as necessary depending upon complications.

V. Sometimes other hypotensives or paraldehyde 5 cc. deep I.M., or 0.5 gms.,

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of pentothal in 200 cc. of tap water as rectal drip are given if hypertension or convulsions persist inspite of above regime.

After sedating the patient a thorough general and neurological examinations are done. An obstetric examination is done to note the duration of pregnancy, condition of foetus and whether the patient is in labour. Catheter is kept in situ and urine examination for albumin is done. Blood pressure, pulse and temperature are recorded four hourly and fluid charts are maintained.

The obstetric management for patients in labour is amniotomy with or without subcutaneous syntocinon 2 units half hourly for 6 doses to accelerate labour. In case of antepartum eclampsias not in labour, after sedation, induction of labour is done with subcutaneous syntocinon as above, preceded or followed by amniotomy 6 hours after occurrence of last fit. Second stage is shortened by assisting the delivery by forceps or vaccum extractor under pudendal block. Lower segment caesarean section is done for eclampsia per se in cases of status eclampticus, and if the convulsions recur or are not controlled in 10-12 hours after starting the treatment unless the cervix is favourable and quick delivery is anticipated by amniotomy and obstetric stimulation.

Results

It is noted that the incidence of eclampsia for the past eleven years is varying between 0.83% to 1.4%.

The incidence of Eclampsia in the present series is 1.4% which is lesser than that quoted by other Indian authors, but still high when compared to figures from the developed countries.

It is observed that 40% of the admissions were from the rural areas where proper antenatal services are not available. This finding differs from the statement of Upadhyaya *et al*, (1964), who noted the rarity of the disease in rural area, thus implying that it is a disease due to sedentary habits. About 23% of deliveries in this hospital are from rural area.

In this series, 60% of the cases were below 20 years of age and another 20% between 20 and 25 years—thus 80% of the cases were below 25 years. The incidence noted in the older age group of above 31 is about 4% only. Similar find-

TABLE 1

Showing Incidence of Eclampsia from 1962-72 in Govt. Maternity Hospital, Hyderabad

Year	No. of deliveries	Eclampsia cases	Incidence %
1962	10714	109	1.017
1963	11137	96	0.86
1964	11753	93	0.83
1965	10199	130	1.27
1966	10749	140	1.31
1967	11139	165	1.48
1968	10090	162	1.61
1969	10032	100	1.39
1970	10871	152	0.99
1971	10103	142	1.405
1972	11297	129	1.14

TABLE II

Comparative Incidence of Eclampsia Reported by Other Authors

Authors	Year	Incidence in %
1. Mitra & Das Gupta	1957	1.4
2. Kyank, Scheele and Trommer	1960	5.4
3. Brown	1961	0.15
4. Upadhyaya and Mishra	1964	0.38-0.78
5. Lopez-Llera	1967	0.14
6. Villiers and Slabber	1970	0.62
7. Bhaskar Rao K.	1971	3.06
8. Mathew et al	1971	3.06
9. Our series	1972	1.4

ings are reported by Herbert *et al*, (1968).

In this study there are 75% primiparae and 25% multiparae figures, similar to those given for primis by Menon (1957) 60% and Herbert (1968) 70%.

The population of Hyderabad is about 20 lakhs, of whom, 61% are Hindus, 35% Muslims, 3% Christians and 1% others. The incidence of eclampsia is noted to be 62.3% among the Hindus and 36.4% among Muslims, showing no significant effect of religion.

It is seen that 74.6% of our patients showed all the three signs of toxaemia in addition to convulsions. In 14.3% there was no oedema and in 11.1% there was no protienuria. All patients had hypertension. Menon (1957) noted the absence of oedema in 12.5% of his cases and Marmol (1970) quoted absence of proteinuria in 33.3% of his cases. Diastolic blood pressure of over 120 mm. Hg., was noticed in about 47% of our cases.

Incidences of antepartum, intrapartum and postpartum eclampsia were 43%, 43% and 14%, respectively. Menon's figures (1961) are 71.5% antepartum, 5.5% intrapartum and 23% postpartum cases. Bhose and Mitra (1958) report an incidence of 16.9% of postpartum eclampsia.

Of the 319 cases, about 69% occurred after 32 weeks of gestation with 40% within 36 weeks and about 30% between 37 and 40 weeks (Table III).

Recurrence of fits was noted in about 30% of our cases which is higher than that quoted by Menon (1951), inspite of similar type of sedative regime but is lower than that of Lahiri (1970) (Table IV).

TABLE III

Incidence of Types of Eclampsia as Compared to Those Reported by Other Indian Authors

Authors	No. of cases	Ante-partum	Intra-partum	Post-partum
Present series	369	159 (43%)	160 (43%)	50 (14%)
Mitra (1958)	367	—	305 (83.1%)	62 (16.9%)
Menon (1961)	1151	826 (71.5%)	61 (5.5%)	264 (23%)
Upadhyaya & Mishra (1964)	338	200 (58.9%)	108 (33%)	30 (8.1%)

TABLE IV

Recurrence of Fits—(Comparative)

Authors	No. of cases	Percentage of recurrence of fits
Menon (1961)	402	15%
Lahiri, C. (1970)	1071	48%
Present series	369	30%

Of the 319 cases, 69 antepartum cases were induced (44%); (41 by A.R.M. alone and 9 with syntocinon only, and in 19 cases both were used). One hundred and thirty intrapartum cases needed acceleration of labour, 98 with A.R.M. alone and 32 with A.R.M. and syntocinon. One hundred and seven cases delivered spontaneously and thirteen cases absconded.

The mode of delivery in 296 cases after excluding 13 absconded cases and 10 who died undelivered shows spontaneous delivery in 56.4% of cases. Delivery was assisted by forceps or vaccum extractor in 33% of cases; 8.8% of the cases had to be delivered abdominally. There were seven cases of assisted breech delivery. This shows that 91% of our cases delivered by the vaginal route.

There were 38 maternal deaths. Three cases were admitted as postpartum eclampsias. Out of remaining 35 cases, 10 died undelivered and 11 had antepartum eclampsia, and 14 had intrapartum eclampsia. Thus, about 53% of the deaths were among the patients with antepartum eclampsia. The uncorrected maternal mortality is about 10.3% of the total eclampsia cases. The corrected mortality rate, after excluding 8 cases admitted in a moribund condition who died within 2-3 hours after admission, works out to about 8%. This incidence is a little higher than that quoted by other Indian authors as can be observed from Table V.

Maternal Mortality

As seen from Table VI about 29% of our patients died of cerebral complications and about 32% died of pulmonary complications. Of the 7 patients who died

TABLE V
Maternal Mortality (Comparison with different authors)

Author	Year	Maternal Mortality (Percentage)
Menon	1961	2.2
Upadhyaya and Mishra	1964	1.5-3
Lopez-Llera	1967	10.3
Crichton et al	1968	8.4
Sirish and Munsiff	1968	7.0
Villiers and Slabber	1970	8.2
Present series	1972	10.3

TABLE VI
Causes of Maternal Death

Cause of death	No. of cases	
Cerebral haemorrhage	10	
Pulmonary oedema	12	
Superior sagital sinus thrombosis	1	
Hyperpyrexia	2	
Shock	7	—Unknown—3 —Haemorrhage—2 —Septicemia—2
Cardiac failure	6	

of shock, the primary cause of shock in 3 was unknown and in 2 it was haemorrhage; septicemia was responsible for another 2 cases.

Perinatal Mortality

Of the 302 babies (including 6 twins) there were 143 perinatal deaths; of which 82 were stillbirths and 61 neonatal deaths. Out of 82 stillbirths in 47 foetal heart sounds were absent on admission and the remaining 35 died during either antepartum or intrapartum period. Analysing these cases according to gestational age it can be seen that 11 of them were 28 weeks or below and 57 were between 29-32 weeks and only 14 of them were between 33 and 40 weeks.

Of the 61 neonatal deaths, 20 were below 32 weeks, 27 were between 33 and 36 weeks and 14 were between 36 and 40 weeks; most of the babies were deeply asphyxiated. Of these 143 perinatal deaths, 126 occurred below 36 weeks gestation and of these 77 were less than 1500 gms. Thus, prematurity accounted for 88% of perinatal deaths and eclampsia per se may be responsible for high incidence of prematurity. Thus the corrected perinatal mortality rate works out to 22.2%.

Avoidable foetal mortality is influenced by mode of obstetric management. The more the conservative approach the more is the foetal loss and maternal mortality. Crichton *et al,* (1968) report a perinatal mortality of 35.4% with caesarean sections and 47% with vaginal deliveries. Villiers and Slabber (1970) reported that by increasing the incidence of abdominal delivery from 56% to 76%, the foetal loss was reduced from 24.5% by vaginal delivery to 8.8% by abdominal delivery. Lean *et al,* (1968), with a caesarean section rate of 63%, report perinatal mortality of 13%. No significant effect on maternal mortality is noted inspite of increased caesarean section rate. This can be seen from Table VI. The perinatal mortality rate as a whole in our hospital for one year period (1965-66) was 515/1000 births and caesarean section contributed for 20% of them. Maternal mortality rate for caesarean section per se was 2.1%.

Comments

Maternal mortality and perinatal loss are the yard-sticks for assessing the management of eclampsias. Direct comparison of results from different centres is impossible unless the severity of eclampsia, type, duration and number of convulsions and associated complications are known. Menon (1961) demonstrated a maternal mortality rate of 2.5%, the highest rate being in antepartum eclampsias which is similar to that of ours in antepartum cases. The average maternal mortality rate in eclampsias reported in recent times varies between 2% and 10%.

The modern trend contributes to the fact that caesarean section has given the best results if done at the optimum time and not as a last resort. When conservative treatment has failed to control the convulsions caesarean section also improves the foetal salvage rate by avoiding stress and strain of labour to an already retarded foetus. Perinatal mortality rate reports vary from 11% to 42.6%. Increase in perinatal mortality rate with severity of eclampsia and delay in treatment, is now well established. The effectiveness of any management will depend on primary control and prevention of recurrence of fits by adequate sedative and hypotensive line of treatment and active interference when indicated.

The teaching of community medicine and institution of better obstetric services will play a vital role in lowering the incidence of eclampsia.

Summary

Three hundred and sixty-nine cases of eclampsia put on sedative hypotensive line of treatment are reviewed. Forty per cent patients were from rural area; 80% of the cases were seen to be below 25 years of age and 75% patients were primigravidae. Religion does not influence the incidence. Among the types of eclampsia, antepartum and intrapartum were 43% each and the rest were postpartum cases. Sixtynine per cent of the cases are of more than 32 weeks gestation period. Recurrence of fits after treatment occurred in 30% of cases. Forty-four per cent of antepartum cases needed induction of labour and in 81% of intrapartum cases, labour was accelerated. Ninety-one per cent of the cases delivered vaginally, 33% were assisted by forceps or vaccum extractor. 8.8% were delivered by caesarean section. Overall maternal mortality was 10.3% and corrected one was 8.1%. Overall perinatal loss was 44.4% and corrected one was 22.2%.

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