MANAGEMENT OF ECLAMPSIA

(Results of 125 Cases without Mortality)

by

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My paper is aimed at showing you all why we started to use Chlorpromazine for toxaemia of pregnancy, particularly, in eclampsia, as pioneer in this country.

The title of the paper as it is shown is not exactly what I want to say. No mortality in a consecutive series of 125 cases is not quite the credit to the workers or any particular drug; a bit of luck is also necessary for such record, because we all know, and my previous series will also show that some cases of eclampsia do come into hospital as if just to die and raise the mortality rate. One cannot even start the treatment. May be we were fortunate not to get any such cases during the time when we were completing this series. So at the very outset, I must admit that this paper means just a statement of facts and no claim for any credit.

During the years 1944 to October 1954, 701 cases of eclampsia were treated at the Chittaranjan Seva Sadan, with an overall mortality of 19.0%, the range varying from 12.2% to 35.6% (Table 1).

TABLE I

Incidence with Maternal and Infant Mortality Rates at the Chittaranjan Seva Sadan from 1944 to 1954 (PP) and (UD) indicate Postpartum and Undelivered Eclmpsia Cases respectively.

Year	Total no.	PP	UD	Maternal mortality		Infant mortality	
1944	53	11	6	11	(20.8%)	36/19	(52.8%)
1945	58	12	7	14	(24.0%)	39/25	(64.1%)
1946	62	12	8	14	(22.6%)	42/24	(57.1%)
1947	65	12	14	10	(15.4%)	39/21	(53.8%)
1948	56	8	1	11	(19.6%)	47/28	(59.6%)
1949	63	10	3	14	(22.2%)	50/23	(46.0%)
1950	88	11	12	13	(14.8)	65/41	(63.0%)
1951	73	9	6	10	(13.7%)	58/30	(51.7%)
1952	64	9	3	11	(17.2%)	52/29	(55.8%)
1953	74	10	3	9	(12.2%)	61/43	(70.4%)
1954 April to 12th Oct	45	6	2	16	(35.6%)	37/22	(59.4%)
Total	701			133	(19.0%)		(58.0%)

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During this period conservative lines of treatment on the technique of Stroganoff were followed. Morphine, Mag. Sulph., Chloral hydras, Pethidine Hydrochlor and sometimes Thiopentone Sodium were used. Not being satisfied with our own results we were on the look out for some better technique. In analysing the fatal cases we found out that most of the deaths were caused either by obstetric shock, pulmonary oedema or by anuria. So we thought if we could minimise these complications, we might get better results.

We closely followed the recent work on Chlorpromazine at home and abroad and learnt that this drug has got a wide range of pharmacological properties affecting the central as well as autonomic nervous system, it potentiates the action of anaesthetic and analgesic drugs thus producing a state of somnolence. Other neurophysiological findings suggested that chlorpromazine acts by a suppression of the awakening upward discharge from the ascending reticular formation (Das Gupta, S. R. and Werner, G. 1954). At about the same time results of a few isolated cases of eclampsia treated by artificial hybernation with chlorpromazine were published (Aoustin 1953 and Baccacglini 1953). Encouraged by their favourable results, we made a pilot experiment with 46 consecutive cases of eclampsia with chlorpromazine. In this series there was one maternal death (Mitra and Das Gupta 1955). This was sufficiently inspiring a result for us to pursue the new technique further and the next dissertation that we published in the Journal of Obstetrics and Gynaecology of British Empire embodied the report of more or less consecutive series of 133 cases of eclampsia treated with chlorpromazine with maternal mortality 4.5%. Since then the routine treatment of eclampsia of this hospital is carried on with chlorpromazine and some other adjuvants. The present series is still more encouraging In the series of 125 consecutive cases treated with this new technique there is not a single maternal mortality.

We being the pioneer workers, we faced the difficulties in tabulating the optimum dose of the drug and mode of administration. We had to use several different doses on different patients, to come to a working routine scheme.

Since the last publication there has been certain modification in the routine scheme of treatment with definite beneficial results.

The intravenous drip infusion in place of intermittent intramuscular injection of chlorpromazine and phenergen was introduced in the acute phase of the disease, and the addition of pethidine hydrochloride in selected cases.

The routine scheme in this series being—

On admission—12.5 mgm. each of chlorpromazine and phenergen were injected I.V. in 50 ml. of 5% glucose solution to have an immediate sedative effect. Subsequently within an hour an I.V. 5% glucose infusion of 540 mls. containing 50 mgm. each of chlorpromazine and phenergen was started in drip form, the rate of which was controlled so as to maintain the sedative effect. This was continued and followed if necessary by a second pint of said mixture till

the B.P. was stabilised at a lower level. In the majority of cases, the B.P. was stabilised in 5 hours time with 1 pint of above fluid.

After the 5th hour—when the first pint of the infusion was completed or after the 9th hour when the required second pint was finished, 25 mgm. each of chlorpromazine and phenergen were given I.M. It was repeated every 4 hours or 5 hours till the patient could take chlorpromazine tablet (25 mgm.) orally twice a day for 10 to 12 days.

The total amount of chlorpromazine given parenterally in each case varied from 62.5 to 231.5 mgm., the average dose being 137.5 mgm.

To ensure uniformity of the treatment, a senior house surgeon was specially deputed. Constant meticulous attention was exercised by sitting by the side of the patient till the crisis was over.

With the above method of treatment, results were assessed on the basis of clinical symptomatology obtained on pulse, blood pressure, fits, urinary flow and recovery.

Pulse: There was an over all tachycardia in the cases treated with this method. Rise of pulse rate was within the range of 20 to 60 beats per minute in the first hour of treatment. No special treatment was necessary, and with careful studies it was considered that initial high pulse rate was not a contraindication to this method of treatment.

Blood pressure: There was a fall of systolic pressure during the first 24 hours of the treatment. The earliest maximum fall of blood pressure since the institution of chlorpromazine treatment occurred within 15 minutes in about 5 cases in all series. The greatest fall recorded in these series was 120 mm. of Hg. systolic in 3 patients. But the patient recovered with simple intravenous glucose infusion. An initial low blood pressure may be considered as a contra-indication to the first I.V. dose.

Fits: In about 36% of cases there was no fit after the treatment was started. In about 50% of all cases fits were controlled in 12 hours. In this series there were two cases who had over 40 fits after installation of treatment with no mortality. It is presumed that if the treatment could be instituted in time, the number of fits did not matter.

Urinary flow: There was no anuria in the entire series. In about 72% of cases there was 600 ml. of urine in first 24 hours.

Recovery: In the earlier series 50% of all cases regained full consciousness within the first 24 hours. In the latter series 8.4% recovered within first 24 hours. Latest time taken was 72 hours.

Obstetrical Management

Our school strictly adheres to the conservative line of treatment. Artificial rupture of membranes was done when the patients were in labour. Low forceps delivery and episiotomy were liberally employed under Thiopentone Sodium anaesthesia. Lower segment caesarean section was done in two cases for cephalopelvic disproportion.

Nine cases remained undelivered during the active phase of treatment. Six of them were discharged undelivered. All of them had living babies

at normal delivery later on. One of them delivered six weeks after the onset of eclampsia and the baby was living.

Complications

Pulmonary oedema—developed in 5 cases in the previous series and one case in latter series with no mortality. Venesection, clearing the mucous from the throat by means of a sucker and intratracheal oxygen tided over the situation.

Obstetrical shock was conspicuous by its absence.

Mental confusion and disorientation developed in 15 cases which passed off in about a week's time.

Jaundice—was not observed in any case either during the active treatment or on follow-up.

Maternal mortality—As already mentioned, none in the latter series of 125 cases and 4.5% in the earlier series.

Foetal loss—The uncorrected foetal mortality rate was 39.0% against the average of 58.0% of the last 11 years (Table 1). If the cases who had no audible foetal heart sound on admission could be excluded, the corrected mortality rate would be much lower. In the whole series, 40 cases had no audible foetal heart sound before the treatment was started. It is therefore presumed that heavy foetal loss could have been greatly reduced if the treatment could be instituted early enough after the onset of disease.

We have observed a very interesting phenomenon, namely, live babies were born in two cases having 55 fits after the institution of treatment and in one case having 30 fits.

Summary

1. Reduced maternal mortality in overall series with no maternal mortality in latter series of 125 consecutive cases.
2. Corrected foetal mortality in overall series was 19 per cent.
3. Number of fits is not the decisive factor in maternal and foetal mortality.
4. Absence of obstetrical shock.

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