

Efficacy of Low dose Magnesium Sulphate in Indian Eclamptic Women

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I. Aim And Objectives

The safety and efficacy of low dose Magnesium Sulphate regime in the management of convulsion in Antepartum / Intrapartum /Postpartum eclampsia patients. This study also compares the maternal outcome in patients treated with Pritchard and Dhaka regimen.

II. Materials And Methods

This study was conducted at Govt.coimbatore Medical college in the Department of Obstetrics & Gynaecology during the period of June 2015 to June 2016 and 100 eclampsia patients including antepartum eclampsia, intrapartum eclampsia, post partum eclampsia were included for the purpose of this study.Magnesium Sulphate was used for the management of eclampsia. 50 eclamptic patients were treated with Pritchard regimen and other 50 with Dhaka regimen.

Inclusion Criteria

All eclamptic women antepartum, intrapartum, postpartum patients were included in the study irrespective of their age, gestational age, parity and status of booking.

Exclusion Criteria

Patients who have already received Magnesium sulphate outside.
Patients with known epilepsy
Patients with known Heart Block, Renal Failure
Onset of seizures more than 72 hrs after delivery in post partum eclampsia cases

Totally about 134 eclampsia cases were admitted between June 2015 to 2016. Of which 34 patients were excluded according to exclusion criteria

Study Design

Randomized control Trial

Group P: Treatment of 50 patients randomly with Pritchard's regime.

Group D: Treatment of 50 patients randomly with Dhaka regimen of Magnesium Sulphate.

Outcome Measures:

Recurrence of fits was considered as the primary outcome measure. outcome of mother as maternal morbidity and mortality were compared. .

III. Results And Analysis

Table-1

BMI	Dhaka regime		Pritchard regime	
	(n=50)	100%	(n=50)	100%
Low (<19.8)	5	10.0%	0	0%
Normal (19.8 to 26)	41	82.0%	45	90%
High (26 to 29)	3	6%	4	8.0%
Obese (>29)	1	2%	1	2.0%
Total 50	50	100%	50	100.0%

Distribution of Body Mass Index

In Dhaka regimen group, 41 patients were with normal BMI. 5 patients were with low BMI. In Pritchard regimen group 1 obese, 4 with high BMI and 45 with normal BMI were treated. The p value is 0.03

Table : 2 types Of Eclampsia

TYPES OF ECLAMPSIA	Dhaka regime		Pritchard regime	
	(n=50)	(100%)	(n=50)	(100%)
Antepartum	40	80.0%	43	86.0%
Intrapartum	4	8.0%	1	2.0%
Postpartum	6	12.0%	6	12.0%
Total	50	100.00%	50	100.00%

Among the 83 antepartum eclampsia patients, 40 were treated under Dhaka regimen. 43 patients were treated under Pritchard regimen. 6 postpartum eclampsia patients were treated under Dhaka regimen as well as under Pritchard regimen. 1 intrapartum eclampsia patient was treated with Pritchard

Table: 3 Recurrence Of Fits

Sl. No	Fits	Dhaka regimen		Pritchard regimen	
		(n=50)	(100%)	(n=50)	(100%)
1	Nil	49	98%	49	98%
2	Recurrence of fits	1	2%	1.0	2%

One patient from each regime had recurrence of fits. The patient in the Dhaka regime developed another convulsion after 3 hours of loading dose. One patient who developed recurrence of fit in Pritchard regime had that convulsion 2 hours after loading dose

Table : 4 Maternal Complications

	Dhaka regime		Pritchard regime	
	(n=50)	(100%)	(n=50)	(100%)
Abruption	2	4.0%	2	4.0%
HELLP	1	2.0%	1	2.0%
Pulmonary Edema	5	10.0%	2	4.0%
Cerebro vascular accident	1	2.0%	-	0%
Nil	41	82.0%	45	90.0%
Total	50	100.00%	50	100.00%

In Dhaka regimen 2 patients had abruption, 1 had HELLP and 5 had pulmonary edema. One patient developed occipital lobe infarct. In Pritchard regime 2 had abruption. 1 patient had HELLP and 2 had pulmonary edema

Table : 5

MATERNAL OUTCOME	Dhaka regime		Pritchard regime	
	(n=50)	(100%)	(n=50)	(100%)
Alive	49	98.0%	49	98.0%
Death	1	2.0%	1	2.0%
Total	50	100.00%	50	100.00%

In this study, out of the 100 patients, 98 were discharged from the hospital without any sequelae. 2 patients died due to complication of eclampsia.

IV. Discussion

The Maternal Morbidity is very much decreased with the control of eclamptic fits. MgSO₄ is an anticonvulsant drug used in the treatment of Antepartum, intrapartum, postpartum eclampsia which has a wider margin of safety and rapid onset of action. Although rare the toxicity symptoms of magnesium toxicity can be

corrected by antidote calcium gluconate which is readily available. Magnesium sulphate act as an ideal anti convulsant drug in the control of eclamptic fits.

Recurrence of Eclampsia

In this study, the recurrence of eclamptic fits was 2 % .Recurrence of convulsions occurred both in Dhaka regime (one patient) and Pritchard regime (one patient). Collaborative Eclampsia Trial Group (1995) extensively studied 1687 women with eclampsia, They compared the efficacy of MgSO₄ with other anti convulsants namely Diazepam and phenytoin level . . They showed 9.7% recurrence of seizures in the MgSO₄ regime.

Begum et al (1998) studied 65 eclamptic patients with Low dose MgSO₄ (Dhaka regime). 1.5% of patients had recurrent convulsions Bissallah A Ekele et al (2009) studied 121 patients with eclampsia and treated with Ultra short regime (Sokotto regime). In ultra short regime loading dose of 4g of 20% MgSO₄ intravenously followed by 10gm of 50% MgSO₄ intramuscularly given. No maintenance dose was given for those patients. 7.4 % of patients developed recurrence seizures.

Maternal Mortality

In this present study, 2 patients (2%) died due to complication of eclampsia. One patient in Dhaka regime died of intra cranial haemorrhage. One patient in Pritchard regime died of pulmonary edema..In Collaborative Eclampsia Trial ,the maternal mortality was 3.8% when treated with Magnesium sulphate. Bissallah A Ekele et al (2009) reported 12 maternal deaths in 121 patients (9.9%). Shika sheth et al (2010) 49 studied 66 eclampsia patients and they categorized them into three groups. The patients were treated with Standard Pritchard regime, single loading dose regime and low dose MgSO₄ regime respectively. Maternal mortality was 7.6% in Pritchard regime and 5% in single loading dose. There was no maternal mortality in patients treated with low dose regime.

Maternal Morbidity

In this present study, the complication of eclampsia observed in patients treated pulmonary edema (10%) and cerebro vascular accidents (2%). In patients treated under Pritchard regime the incidence of abruption and HELLP were similar as in Dhaka regime . 4% of patients under Pritchard had pulmonary edema. The maternal morbidity between Dhaka regime and Pritchard regime was statistically significant.($p < 0.05$) 91 Shika seth et al (2010) reported pulmonary edema in patients treated with Pritchard regime(3.8%) and with single loading dose (5%). Cortical blindness (5%) reported in patients treated with low dose MgSO₄. This cortical blindness complication also observed in our present study in a patient treated under Dhaka regime

V. Conclusion

Most of the Indian women considered to be of low to normal BMI need only low dose magnesium sulphate which is sufficient for them Efficacy of low dose MgSO₄ regime in controlling the convulsions, and its effect on maternal outcome is equivalent to standard Pritchard regime. Low dose magnesium sulphate is equally good enough to control eclampsia, thereby preventing magnesium toxicity though it is rare Poor manpower and waste of time in monitoring the Mg toxicity symptoms can be avoided in low dose MgSO₄.