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To compare abbreviated regimens of single dose and 12 hours magnesium sulphate administration with the conventional 24 hours postpartum in severe preeclampsia: A randomized clinical trial

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Abstract
Introduction: Preeclampsia and eclampsia have remained a major global public health threat in contributing significantly to maternal and perinatal morbidity and mortality with incidence of 2.16% and 0.28% respectively. The treatment modalities of eclampsia and severe pre-eclampsia include initial stabilization, rational use of antihypertensives, anticonvulsants and planning for delivery. Magnesium Sulphate, as anticonvulsant is drug of choice for convulsion prophylaxis but its benefit should always outweigh its adverse effects. Traditionally the use of magnesium sulphate has been recommended for 24 hour postpartum. By reducing the duration of therapy, the frequency of postpartum maternal monitoring may be curtailed and the possibility for the women to ambulate early and care for her newborn may be increased. The purpose of present study is to compare the effectiveness, side effects and maternal outcome of magnesium sulphate administration as single dose and 12 hours postpartum with the conventional 24 hours in the cases of severe preeclampsia.
Aims and Objectives: To compare abbreviated regimens of single dose and 12 hours magnesium sulphate administration with the conventional 24 hours postpartum in severe preeclampsia.
Material and Methods: A randomized prospective clinical trial was conducted on pregnant women presenting with severe preeclampsia. The patients were randomly allocated into group I (single dose), group II (12hour) and group III (24hour) postpartum MgSO4. The dosage and the route of administration of magnesium sulphate was similar in all three groups before delivery as per Prichard regimen. After delivery, a single maintenance dose of magnesium sulphate was given in group I, 12 hours group II and for 24 hours postpartum in group III. During the study period, the patients were assessed for various outcome parameters such as seizures, clinical outcomes such as time to return to ambulation in hours, duration of indwelling urinary catheter in hours, time until contact with the newborn infant in hour, urine output, adverse effects and evidence of toxicity in mother.
Results: All patients in three groups were comparable with regards to demographic as well as obstetric characteristics. None of the patient in group I had any of the signs of MgSO4 toxicity, however in group II, one patient had loss of patellar reflex and in group III, two patients had loss of patellar reflexes and another two had oliguria. None of the patient had respiratory depression or convulsion in any of the three groups. The patients in group I and group II, ambulated much earlier as and had less duration of catheter as compared to group III. However there was no significant difference in the average time until contact with the newborn between the three groups.
Conclusion: Magnesium sulphate for 24hrs is the drug of choice for seizure prophylaxis in patients with severe preeclampsia and eclampsia but benefits of magnesium sulphate should outweigh its adverse effects. But there was increase in the feeling of wellbeing in shorter regimens with early ambulation, lesser duration of indwelling catheter and early breastfeeding leading to better capability of the mother to take care of newborn. The present study suggests that the abbreviated postpartum MgSO4 regimens can be effective alternatives to the conventional 24 hours regimen for postpartum seizure prophylaxis in severe preeclampsia.

Keywords: Abbreviated Regimens, Magnesium Sulphate, Postpartum and Preeclampsia

Introduction
Preeclampsia and eclampsia have remained a major global public health threat in contributing significantly to maternal and perinatal morbidity and mortality [1]. Especially in low and middle income countries, it is a major cause of maternal and perinatal mortality and morbidity, where

they account for 10-25% of maternal deaths.[2] According to a study in 2014, the global incidence of pre-eclampsia and eclampsia is 2.16% and 0.28%, respectively. Corresponding figures in India are 1.97% and 0.43%, respectively.[3-4] The Working Group of the National High Blood Pressure Education Program (NHBPEP)[6] defined hypertension as blood pressure (BP) ≥140/90 mm Hg using Kortokoff V sound for diastolic blood pressure. The same Working Group classified hypertensive disorders in pregnancy into four groups: Gestational Hypertension Preeclampsia and Eclampsia syndrome, superimposed preeclampsia on chronic hypertension and chronic hypertension. The exact cause of preeclampsia is not known but the mechanisms currently considered important are; placental implantation with abnormal trophoblastic invasion of uterine vessels, Immunological maladaptive tolerance between maternal, paternal (placental), and fetal tissues.[5] Obesity, chronic hypertension and diabetes are among the risk factors for pre-eclampsia, which also include nulliparity, adolescent pregnancy and conditions leading to hyper placentation and large placentas (e.g. twin pregnancy) [8].

Management of women with pre-eclampsia aims at minimizing further pregnancy related complications, avoiding unnecessary prematurity and maximizing maternal and infant survival [7]. The treatment modalities of eclampsia and severe pre-eclampsia include initial stabilization, rational use of antihypertensives, anticonvulsants and planning for delivery to achieve "cure" [9]. Anticonvulsant is essential in eclampsia to control seizure and in severe preeclampsia to prevent eclamptic convulsion.[9] Various anticonvulsants had been used in the past like lytic cocktail regimen, Diazepam, Phenytoin, but it is only the Magnesium Sulphate (MgSO4, 7H2O) that withstood the test of time.[9] In the Pritchard Regimen (conventional regimen) the loading bolus dose of 4gm (20%) of MgSO4 is given slowly intravenously over 5-10 min and this is followed by 10gm (50%) given intramuscularly (5gm in each buttock). Subsequently, 5 gm (50%) is given intramuscularly into alternate buttocks every 4 hourly till 24 hr after delivery or after the last fit (whichever comes last) [12]

The benefit of magnesium sulphate prescription should always outweigh its adverse effects [13]. Traditionally the use of magnesium sulphate has been recommended for 24 hour postpartum [14]. The method of administration, dosage and duration of magnesium sulphate prescription after delivery has been compared in different studies [13]. Even after so many years of its use, the acceptance of magnesium sulphate in rural areas is very low where the infrastructure of the hospitals is not equipped to manage the patients. By reducing the duration of therapy, the frequency of postpartum maternal monitoring may be curtailed and the possibility for the women to ambulate early and care for her newborn may be increased. The purpose of the present study is to compare the effectiveness, side effects and maternal outcome of magnesium sulphate administration as single dose and 12 hours postpartum with the conventional 24 hours postpartum in the cases of severe preeclampsia.

Aims and Objectives

To compare abbreviated regimens of single dose and 12 hours magnesium sulphate administration with the conventional 24 hours postpartum in severe preeclampsia. The objectives of study were; to assess the occurrence of seizures in the mother, conversion if any to 24 hour regimen, postpartum clinical outcome, adverse effects and evidence of toxicity in mother and satisfaction score.

Material and Methods

A randomized prospective clinical trial was conducted in the Department of Obstetrics and Gynaecology at Dr. RPGMC Tanda on pregnant women presenting with severe preeclampsia after approval of the institutional ethical committee. Inclusion criteria includes; Singleton pregnancy with severe PET, signs and symptoms of impending eclampsia and HELLP syndrome. Exclusion Criteria includes; known case of seizures, already on MgSO4 regimen, preexisting diabetes mellitus, renal disease, Chronic HTN, Anuric/oliguric (urine output <25 ml/hr), contraindication to MgSO4 (hypersensitivity), IUD, pulmonary edema and comatose patient.

In order to calculate sample size, the rate of occurrence of seizures as assumed 3% in experimental (single dose and 12 hour group) and 0% in standard (24 hour group) with non-inferiority limit of 3% at 80% power and 5% level of significance. Total sample size calculated=100. The patients were randomly allocated by a computer generated system into group I (single dose), group II (12hour) and group III (24hour) postpartum MgSO4. The randomization sequence was kept in a sealed opaque envelope to be opened just before allocating the patient to either Group I, Group II or Group III. Detailed history including obstetric history, menstrual history, POG, medical history, surgical history, past history, history of allergy to drugs was taken followed by thorough, general physical and systemic examination including obstetric examination and the required investigations were done. Antihypertensive if required, was given as per the institutional protocols. The dosage and the route of administration of magnesium sulphate was similar in all three groups before delivery as per Pritchard regimen. Every 4 hours thereafter, maintenance dose of 5g of a 50% solution of magnesium sulphate was injected deeply in the upper outer quadrant of alternate buttocks after ensuring: Patellar reflex is present, Respiration is not depressed, and Urine output of previous 4 hours exceeded 100ml.

Maternal and fetal condition was monitored during labour/cesarean section and mode of delivery, maternal and fetal outcome were recorded. After delivery: a single maintenance dose of 5 gm of 50% sol. of magnesium sulphate was given to patients in group I, 12 hours in group II and 24 hours postpartum in group III. In Group I and II, in case of persistent severe hypertension/ appearance of signs or symptoms of impending eclampsia/convulsions, the maintenance dose was continued for 24 hours. During the study period, the patients were assessed for various outcome parameters such as seizures, time to return ambulation in hours, duration of indwelling urinary catheter in hours, time until contact with the newborn infant in hour, urine output, adverse effects such as nausea, vomiting, flushing, hypersensitivity reaction, lightheadedness, pain/ induration/ abscess at injection site, and evidence of toxicity in mother such as loss of patellar reflexes, decreased urine output, respiratory depression. After completion questionnaire was filled regarding the satisfaction score. Data was collected and statistical analysis was done using SPSS software. Student's t-test, Chi-square test and Fisher's exact test was used for comparing data.

Observations

Table number I shows various baseline demographic characteristic. In the present study, the patients in all the three groups were comparable with regards to age distribution. The average age in group I was 28.61±4.589 years, in group II was 27.88±4.762years and in group III was 27.32±5.232 years. (p value>0.05)

Table 1: Baseline Demographic Characteristics (N=100)

	Group I (Single dose) N=33	Group III (24 hr) N=34	P -value	Group II (12 hr) N=33	Group III (24 hr) N=34	p-value
Age(mean)	28.61±4.589	27.32±5.232	0.291	27.88±4.762	27.32±5.232	0.651
Booking % of B/UB	93.9/6.1	91.1/8.8	.97/.22	96.9/3.1	91.1/8.8	.22/1.01
Residential % of R/U	78.78/21.21	82.3/17.7	.71/.71	72.71/27.3	82.3/17.7	.345/.345
Education N/ % till 12th	25/75.69	26/76.3	.22	25/75.7	26/76.3	.22
Graduation	5/15	4/11.7	.68	5/15.1	4/11.7	.68
Post-graduation	3/9.1	4/11.7	.136	3/9.1	4/11.7	.136
BMI N/% <18.5	0/0	0/o		2/6	0/0	.14
18.5-24.9	30/90.9	30/88.2	.72	27/81.81	30/88.2	.55
25-29.9	2/6	4/11.7	.41	4/12.12	4/11.7	.975
>30	1/3.03	0/0	.306	0/0	0/0	

Majority of patients in all three groups were booked and belonged to rural area. Regarding the education status of patients in the three groups, majority of patients i.e. 23 (69.69%) in group I, 25 (75.7%) in group II and 24 (70.5%) in group III were educated upto 12th standard and only 6% of patients in group I and 5.8% of patients in group III had primary education only. Nearly 90% of the women were having normal BMI (18.524.9). (p value >0.05).

Table 2: Obstetrics Characteristics (N=100)

	Group I (Single dose) N=33	Group III (24 hr) N=34	P -value	Group II (12 hr) N=33	Group III (24 hr) N=34	p-value
Gravidity N/% PGR	20/60.6	20/58.8	.882	18/54.4	20/58.8	.724
G2-G4	13/39.3	12/35.2	.72	13/39.3	12/35.2	.729
>=G5	0/0	2/5.8	.15	2/6	2/5.8	.975
Mean POG	35.93±2.87 wk	36.57±2.72 wk	.355	36.7±2.62 wk	36.57±2.72 wk	.838
Mean systolic BP mmHg	165.87±11.950	165.24±12.378	.829	166.18±13.292	165.24±12.378	.763
Mean diastolic BP mmHg	104.90±9.261	104.05±10.497	.727	104.7±9.467	104.05±10.497	.776
Mode of delivery N/%						
NVD	18/54.5	15/44.1	.266	15/45.4	15/44.1	.907
Operative VD	2/6.06	1/2.9		1/3.O	1/2.9	
Cesarean section	13/39.3	18/52.9	.266	17/51.5	18/52.9	.907

Twenty patients each in group I and III and eighteen patients in group II were primigravida. Thirteen patients each in group I and II and 12 patients in group III were between G2-G4. (p value> 0.05). The mean period of gestation in group I (single dose) was 35.93±2.87 weeks, in group II (12 hours) was 36.7±2.62 weeks and in group III (24 hours) was 36.57±2.72 weeks. There was no significant difference in the mean systolic and diastolic BP in the three groups. (Table: II) None of the patient in group I had any of the signs of MgSO4 toxicity. However, in group II, one patient (3.03%) had loss of patellar reflex and in group III, 2(5.88%) patients had loss of patellar reflexes and another two (5.88%) had oliguria. No patient had respiratory depression in any of the three groups. Although MgSO4 toxicity in the form of loss of patellar reflex and oliguria was observed slightly more in the conventional 24 hours regimen (group III), as compared to group I (none) and group II (one patient) but the difference was not statistically

In group I, 2 (3.03%) and in group II, 4 (12.1%) patients had nausea whereas in group III, 5(14.7%) had nausea. One (3.03%) patient in group I and II had vomiting whereas 2 patients (5.9%) in group III had vomiting (p value >0.05). Flushing occurred in 2(6.0%) patients in group I. In group II, 4 (12.1%) patient had flushing whereas in group III, 5(14.7%) patients had flushing (p value >0.05). No patient had lightheadedness in group I and II whereas one (2.94%) patient in group III complained of lightheadedness. There was no significant difference in the above adverse effects between the three groups (p value>0.05).

The present study shows that with increasing the duration of MgSO4 administration, ambulation was delayed and prolonged catheterization was required.

Table 3: Postpartum Clinical Outcome (N=100)

	Group I (Single dose) N=33	Group III (24 hr) N=34	P -value	Group II (12 hr) N=33	Group III (24 hr) N=34	p-value
Time to return to ambulation	10.94±6.851hr	17.12±8.157hr	.007	13.12±6.153hr	17.12±8.157hr	.075
Duration of indwelling catheter	7.91±4.376hr	24.35±1.041hr	<0.001	14.64±3.160hr	24.35±1.041hr	<0.001
Time until contact with the newborn	1.08±0.497hr	1.28±0.621hr	0.264	1.14±0.533hr	1.28±0.621hr	0.230
Breastfeeding within 1 hr	20 Patients	16 Patients	0.272	16 Patients	16 Patients	0.325
Occurrence of	0	0		0	0	

convulsions						
Conversion to conventional MgSO4 regimen	0	N/A		1/2.9%	N/A	
S/S of IE	0	0		1/2.9%	0	.321
PPH	0	1/2.9%	.321	0	1/2.9	.321

None of the patients had convulsions in any of the three groups. Table III clearly shows that with regards to multiple factors, the patients in group I (10.94±6.851 hours) and II (13.12±6.153 hours) ambulated much earlier as compared to group III (17.12±8.157 hours). The difference was statistically significant while comparing group I and III (p value 0.001) and group II and III (p value 0.027). Similarly the mean duration of indwelling catheter in situ was more in group III (24.35±1.041 hours) followed by group II (14.64±3.160 hours) and least in group I (7.91±4.376 hours) and the difference was statistically significant (p value <0.001). However there was no significant difference in the average time until contact with the newborn between the three groups, as it was 1.08±0.497 hours in group I, 1.14±0.533 hours in group II and 1.28±0.621 hours in group III (p value>0.05). (Table: III). No patient in group I (single dose) had to be converted to conventional 24 hours regimen whereas one patient (2.9%) in group II (12hours) was converted to conventional 24 hours regimen. The satisfaction score was best in group I as compared to group II and III.

Discussion

As table number IV shows the mean age of patients in various studies was in the range of 25-30 years. In the present study, the mean age of patients in group I was 28.61±4.589 years, in group II was 27.88±4.762 years and in group III was 27.32±5.232 years comparable to similar study done by El-Khayat W *et al* [11], and Kashanian M *et al* [13]. While by Ranganna H *et al* [10] reported slight higher age. Majority of patients in all the three groups were having normal BMI similar to the study by Dasgupta S *et al* [9] whereas the mean BMI of patients was higher in the study by Kashanian M *et al* [13]. In the present study, relationship between BMI and PET is not significant as most of the patients had BMI within normal range. Majority of patients i.e. 93.9% in group I, 96.9% in group II and 91.1% in group III were booked which is in contrast to a study conducted by Nagaria T *et al* [1] in which 21.4% of patients in loading dose only group and 18.5% patients in 24 hours group were booked. The booking status did not prevent PET but helped in early detection severe PET and related complications.

Table 4: Baseline demographic and obstetrics characteristics

	Mean age (years)	**PGR (%)**	**Multigravida (%)**	**Mean POG**	**Mean systolic BP mmHg**	**Mean diastolic BP mmHg**
El-Khayat W *et al* [11]						
Single/loading dose	26.75±5.26	37.5	62.5	35.75±2.85	162±19.44	104.13±11.55
12 hours	26.56±4.98	37.5	62.5	35.91±2.93	162.50±14.88	105.06±10.29
24 hours	26.64±5.15	36.3	63.8	35.59±2.68	161.13±16.91	100.25±13.86
Ranganna H *et al* [10]						
Single/loading dose	25.76±4.86	64	36	31.28±3.47		
24 hours	25.60±3.67	58	36	31.56±3.27		
Kashanian M *et al* [13]						
12 hours	28.9±6.1	65	14	36.1±1.2	152.2±12.3	95.2±9.4
24 hours	29.9±6.1	79	12	36.2±1.3	158.3±15.4	95.1±9.5
Rimal SP et a1 [16]						
Single/loading dose					152.33±20.95	102±13.49
24 hours					157.67±23.73	110.33±14.96
Present study						
Group I	28.61±4.589	60.6	39.3	35.93±2.87 wk	165.87±11.950	104.90±9.261
Group II	27.88±4.762	54.5	39.9	36.7±2.62 wk	166.18±13.292	104.7±9.467
Group III	27.32±5.232	58.8	41	36.57±2.72 wk	165.24±12.378	104.05±10.497

Preeclampsia is relatively more common in primigravidae as compared to multigravida, which is also evident in the present study, as 60.6% patients in group I, 54.5% in group II and 58.8% in group III were primigravida which is similar to the study by Ranganna H *et al* [10]. The POG in group I, group II, and in group III, was comparable to the study done by El-Khayat W *et al* [11] and Kashanian M *et al* [13]. So, severe PET was more common in third trimester with the mean gestational age of 36 weeks in most of the studies. The mean systolic BP of patients in our study was almost similar to the study by El-Khayat W *et al*[11]. The mean diastolic BP was also comparable other studies like El-Khayat W *et al* [11], Rimal SP *et al* [16].

In the present study, 60.6% patients in group I, 48.4% patients in group II and 47% patients in group III had vaginal delivery, similar to study by El-Khayat W *et al* [11]. In a study by Nagaria T *et al*[1] 63.1% patients in single loading dose group and 46.2% in 24 hours group had normal vaginal delivery. In the present study as well as in the study by El-Khayat W *et al* [11], Nagaria T *et al* [1], Dasgupta S *et al* [9], and Rimal SP *et al* [16], there was high rate of cesarean section because in most of the patients with severe PET, pregnancy needed to be terminated before term with patients having poor bishop score and most of these patients landed up in cesarean section for termination of pregnancy. The incidence of preterm births was higher as pregnancy in patients with severe PET is terminated irrespective of POG.

In the present study, none of the patients in any group had seizures while in studies by El-Khayat W *et al* [11], and Kashanian M *et al* [13], one (1.2%) patient in 12 hours group and 2% of patients by Ranganna H *et al* [10] in single dose regimen had seizures. However Nagaria T *et al* [1] reported a slightly higher incidence of seizures (3.4%) in single/loading dose group and none in 24 hours group. Whereas Rimal SP *et al* [16] reported a further higher rate of seizures (6.7%) in single/loading dose group.

As the duration of administration of MgSO4 increases, the incidence of adverse effects also increases as evident in the

present study as well as various other studies. In our study, minor side effects like nausea and vomiting were present in 12% of patients in group I, 15.1% in group II and 20.6% in group III which were higher in comparison to the study done by Kashanian M *et al* [13]. In our study, none of the women reported symptoms of lightheadedness in single dose and 12 hours group whereas 2.94% of patients reported lightheadedness in 24 hours group, while only 0.97% of patients in 24 hours group in study by Kashanian M *et al* [13] had lightheadedness. Pain at injection site was complained of by 15.1% of women in group II and 23.5% in group III (1.5 times higher). Whereas only few patients in 24 hours group (3.94%) complained of pain at injection site in the study by Kashanian M *et al* [13].

Table 5: Occurrence of convulsions and mgso4 toxicity

	Occurrence of seizure	Conversion to 24 hrs	Loss of patellar reflexes	Oliguria	Respiratory depression
El-Khayat W *et al* [11]					
Single/loading	0%(N=80)				
12 hours	1.3%(N=80)				
24 hours	0%(N=80)				
Ranganna H *et al* [10]					
Single/loading	2%(N=50)-	0%	0%	0%	-
24 hours	2%(N=52)	-	12%	10%	-
Kashanian M *et al* [13]					
12 hours	1.2%(N=79)	1.2%			
24 hours	0%(N=91)				
Rimal SP *et al* [16]					
Single/loading dose	6.7%(N=30)	6.7%	0%	0%	-
12 hr	–	-			
24hr	3.3%(N=30)		53.3%	16.7%	-
Nagaria T *et al* [1]					
Single/loading dose	3.4%(N=29)				
12hr	–				
24hr	0%(N=24)				
Dasgupta S *et al* [9]					
Single/loading dose					
12 hr			2%	12%	4%
24hr			12.6%	2.6%	15.3%
Present study					
Group I	0%(N=33)	0%	0%	0%	0%
Group II	0%(N=33)	2.9%	3.03%	0%	0%
Group III	0%(N=34)		5.88%	5.88%	0%

In the present study, none of the patients in group I were converted to group III but 2.9% of patients in group II were switched over to conventional 24 hours regimen similarly by Kashanian M *et al* [13]. In our study, none of the patients in group I (single dose) had loss of patellar reflexes (Ranganna H *et al* [10] and Rimal SP *et al* [16] and 3.03% patients in group II (12 hours) had loss of patellar reflex, whereas 2% of patients in single/loading dose group in the study by Dasgupta S *et al* [9]. In our study, 5.88% of patients had loss of patellar reflexes in group III (24 hours) whereas, incidence of loss of patellar reflexes was almost twice (12% and 12.6%) in 24 hours group in the studies by Ranganna H *et al* [10] and Dasgupta S *et al* [9].

As far as urine output is concerned, no patient in single/loading dose group had oliguria in our study as well as in the study by Ranganna H *et al* [10] and Rimal SP *et al*[16] whereas it was observed in 5.88% of patients in 24 hours group in our study, 10% in study by Ranganna H *et al* [10] and 16.7% in study by Rimal SP *et al*[16]. None of the patients in the present study as well as in the study by Ranganna H *et al* [10] and Rimal SP *et al* [16] had respiratory depression in any of the groups whereas respiratory depression occurred in 4% of patients in single/loading dose group and 15.3% of patients in 24 hours group in the study by Dasgupta S *et al* [9]

Table VI, shows comparison of various postpartum clinical outcomes including total duration of indwelling catheter, time to return to ambulation and time until contact with the newborn between the present and the other studies.

Table 6: Postpartum clinical outcomes

	Total duration of indwelling catheter (in hours)	Time to return to ambulation (in hours	Time until contact with the newborn (in hours	Very satisfied/satisfied (%ge of patients)
Maia SB *et al*[14]				
12	14.3±3.7	18.8±4.9	29.6±14.0	73.2%
24	25.3±3.	25.8±6.9	35.0±10.6	64.3%
Present study				
Single dose	7.91±4.4	10.94±6.6	1.08±0.5	100%
12	14.64±3.2	13.12±6.2	1.14±0.5	87.8%
24	24.35±1.0	17.12±8.2	1.28±0.6	73.5%

In present study, the total duration of indwelling catheter in 12 hours group was 14.64±3.2 hours and in 24 hours group was 24.35±1.0 hours but in group I, it was 7.91±4.4 hours which was comparatively very less was similar in the study by Maia SB *et*

al[14]. Time to return to ambulation was 13.12±6.2 hours and 17.12±8.2 hours in 12 hours and 24 hours group respectively in the present study, while Maia SB *et al*[14] reported longer times to return to ambulation. Time until contact with the newborn was comparable in all the three groups in the present study which was much less in comparison to the study by Maia SB *et al*[14]. This early contact of mother with the newborn is due to practice of kangaroo care in the present study. Satisfaction score scale in groups is better than the study by Maia SB *et al*[14]. None of the patients in our study reported dissatisfaction on satisfaction score scale.

Conclusion

Magnesium sulphate for 24hrs is the drug of choice for seizure prophylaxis in patients with severe preeclampsia and eclampsia but the side effects and toxicity of magnesium sulphate should be seriously considered and the benefits of magnesium sulphate should outweigh its adverse effects. In our study, the minor adverse effects of magnesium sulphate were almost similar in three groups, however as the duration of MgSO4 administration increased from single dose postpartum to 12 hours and further to 24 hours postpartum, the incidence of pain and induration at injection and the features of magnesium sulphate toxicity also increased but none of the patients had seizures. There was increase in the feeling of wellbeing in shorter regimens with early ambulation, lesser duration of indwelling catheter and early breastfeeding leading to better capability of the mother to take care of newborn. The present study suggests that the abbreviated postpartum regimen can be effective alternatives to the conventional 24 hours for postpartum seizure prophylaxis in severe preeclampsia and such regimens can be a boon to the health care facility. This is particularly suitable in developing countries like ours where the resources are limited and 1:1 monitoring is difficult. Resorting to such shorter courses can lead to more effective utilization of manpower and resources and also potentially reduce the risks and discomforts of MgSO4 therapy without significantly altering the clinical course.

Conflict of Interest: Authors had no conflict of interest to declare.

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