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Research Article

## Earliest use of initial prophylactic dose of magnesium sulphate (MgSO<sub>4</sub>) in severe pre-eclampsia to improve maternal and perinatal outcome, in a rural medical college, WB, India

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### ABSTRACT

**Background:** Eclampsia is one of the high risk obstetric complication throughout the world. Till today, eclampsia is one of the important cause of maternal mortality in our country. However the administration of magnesium sulphate (MgSO<sub>4</sub>) has changed the scenario significantly.

**Methods:** The study includes 100 patients with severe pre-eclampsia admitted Malda medical college hospital, from 1<sup>st</sup> June 2013 to 30<sup>th</sup> April 2014. This study compares the maternal fatal outcome between two groups of patients with severe pre-eclampsia (BP ≥160/110 mm. proteinuria 2 gm/24 hours. or ≥2 + dipstick.). The first group of patients were admitted in this institution after being referred from primary and secondary health care facilities, after getting initial prophylactic dose of magnesium sulphate (MgSO<sub>4</sub>) (Group A). The second group (Group B) includes those patients who were admitted without getting any prophylactic dose of magnesium sulphate (MgSO<sub>4</sub>) from outside.

**Results:** Patients were included, in group A, eclampsia and maternal mortality were nil. Where as in group B eight (8) patients (16%) had eclampsia and 4 patients (8%) expired.

**Conclusions:** Initial dose prophylactic magnesium sulphate (MgSO<sub>4</sub>) the earliest, can prevent both maternal perinatal maternal mortality. So, prophylactic magnesium sulphate (MgSO<sub>4</sub>) must be started at the first point of contact by trained health providers.

**Keywords:** Pre-eclampsia, Magnesium sulphate, Prophylactic dose

### INTRODUCTION

There were a lot of studies and research work to find out the cause of eclampsia but the etiology is still unclear. Severe pre-eclampsia and eclampsia are one of the important cause of maternal mortality around the world. The purpose of administering prophylactic dose of magnesium sulphate (MgSO<sub>4</sub>) is to reduce maternal and perinatal mortality and morbidity. The routine use of magnesium sulphate (MgSO<sub>4</sub>) in the management of pre-eclampsia started after the publication of Magpie trial<sup>1</sup> at 2002. So it is highly practicable to give at least initial prophylactic dose of magnesium sulphate (MgSO<sub>4</sub>) to all

severe pre-eclampsia to reduce maternal and perinatal mortality and morbidity before referring to higher center.

### METHODS

This is a randomised study, conducted at Malda medical college hospital, for 11 months, starting from 1<sup>st</sup> June 2013 to 30<sup>th</sup> April 2014. A lot of patients are referred to Malda medical college hospital from vast remote rural areas. 100 patients included in this study, 50 patients are divided in each group. The first group (Group A) were admitted after getting prophylactic initial dose of magnesium sulphate (MgSO<sub>4</sub>) from primary and

secondary health care facilities. The patients in the second group B were admitted without receiving any dose of magnesium sulphate (MgSO<sub>4</sub>). Patient of group A were admitted, maintenance dose of magnesium sulphate (MgSO<sub>4</sub>) (5 gm deep i.m. 4 hourly for 24 hours) given. Group B patients were given initial dose [10 gm magnesium sulphate (MgSO<sub>4</sub>) i.m.] and maintenance dose (5 gm deep i.m. 4 hourly for 24 hours) given. Both the groups were followed up and cared accordingly till discharged from the hospital. Obstetrics complication were managed accordingly all the babies of pre-eclamptic mother were managed by hospital neonatal care unit.

## RESULTS

100 patients were selected in this study. The range of age all patients were 17 to 36 years. None of 50 patient patients were none had antenatal and postpartum eclampsia. 8 patients (16%) in group B developed eclampsia. Maternal mortality is nil in group A. Out of 50 patient in group B, 4 patient (4%) expired. New born babies from group A, 8 babies (16%) admitted in sick neonatal care unit in comparison to 18 babies (36%) from group B.

**Table 1: Comparison of two groups of regarding maternal and neonatal outcome.**

	Group A	Group B
Eclampsia	0	8 (16%)
maternal mortality	0	4 (8%)
Admission in sick neonatal care unit	8 (16%)	18 (36%)

## DISCUSSION

The main observation of our study is that the patient receiving magnesium sulphate (MgSO<sub>4</sub>) earlier had better prognosis than those who got magnesium sulphate (MgSO<sub>4</sub>) late. The doctors of different health care facilities administered 5-10 gm magnesium sulphate (MgSO<sub>4</sub>) as mentioned in their referral card as initial prophylactic dose. However some doctors skipped initial prophylactic dose before referral. Whatever the initial dose of magnesium sulphate (MgSO<sub>4</sub>), the outcome is better than non-administration.

## CONCLUSIONS

Initial dose prophylactic magnesium sulphate (MgSO<sub>4</sub>) the earliest, can prevent both maternal perinatal maternal mortality. So, prophylactic magnesium sulphate (MgSO<sub>4</sub>) must be started at the first point of contact by trained health providers.

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