

EDITORIAL

Magnesium Sulphate for management of Eclampsia in low income countries

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Eclampsia is presently regarded as an important cause of maternal mortality in low income countries. Worldwide, an estimated half a million women die each year from various complications of pregnancy. Of these, 50,000 women (nearly 10% of maternal deaths) die annually following eclamptic convulsions, with 99% of these deaths occurring in low and middle income countries¹. Eclampsia is usually a consequence of pre-existing pre-eclampsia, a multi-systemic disease associated with raised blood pressure and proteinuria. Primary prevention is the ideal method of reducing the burden of pre-eclampsia and eclampsia in any community. However, to date, aside from contraception to prevent pregnancies in susceptible women, there is little evidence of effective primary prevention interventions for pre-eclampsia and eclampsia. Thus, secondary prevention, consisting of antenatal care and the early recognition and treatment of pre-eclampsia and eclampsia remain the principal measures for reducing the burden of the disease in many countries.

Various drug regimens have been investigated for their effectiveness in the secondary prevention and management of pre-eclampsia and eclampsia. These include old

drugs such as lytic cocktail and hemenevrin, and more recently used drugs such as phenytoin and diazepam. However, it was only in 1995 that strong evidence became available of the effectiveness of magnesium sulphate for women with pre-eclampsia and eclampsia². There is now universal acceptance that magnesium sulphate is the optimal drug of choice for the treatment of eclampsia³. Further-more, there is strong evidence of the effectiveness of magnesium sulphate for preventing the onset of eclampsia in women with pre-eclampsia. The results of the Magpie (MAGnesium sulphate for Prevention of Eclampsia) Trial, published in 2002, provide convincing and incontrovertible evidence that magnesium sulphate is also effective for the prevention of eclampsia^{4, 5}. Studies have shown magnesium sulphate to be more effective than phenytoin and diazepam in preventing recurrent seizures in eclampsia and significantly reducing maternal mortality^{2, 3, 4, and 5}.

In many low income countries, recent studies have shown magnesium sulphate to be cost-effective in managing eclampsia and to be easy to use, safe and not requiring substantial biochemical monitoring^{6, 7}. Given the increasing evidence of the relative effectiveness and cost-effectiveness of

magnesium sulphate in preventing maternal mortality due to eclampsia, it is worrisome that the drug has not been fully accepted as an integral part of the management of cases of pre-eclampsia and eclampsia in many low income countries. To date, there is evidence that magnesium sulphate is still not available in some developing countries, while its availability varies considerably in several others.

Several barriers to use of magnesium sulphate exist in many countries including lack of licensing of the drug, difficulties due to import restrictions, poor incentive for local production and the lack of political will among policymakers to promote the use of the drug locally⁸. Beyond these system-related barriers, there are complex and multi-faceted group of issues, differing across countries, which inhibit the uptake of magnesium sulphate for the management of eclampsia in low income countries.

Many health providers across developing countries are still not conversant with the evidence relating to the increased effectiveness of magnesium sulphate for the management of eclampsia. Of those who know the evidence, many do not know the drug dosage and regimen and many wrongly believe that the drug has intolerable side effects, which they feel least prepared to manage effectively. Furthermore, in some countries, magnesium sulphate is perceived to be expensive, even though the drug costs less than \$5 per patient in the international market. It is possible that unfavorable local distribution and marketing mechanisms may have exacerbated the costs of the drug in these countries.

Another problem is the lack of protocols and obligatory guidelines for the use of magnesium sulphate in many settings and the poor interest shown by professional associations and public health authorities in many countries to promote best practices relating to the management of eclampsia.

Clearly, the current limited use of magnesium sulphate for the management of eclampsia despite the evidence of its effectiveness and efficacy is a major difficulty in efforts to reduce maternal mortality in low income countries. We believe that as an essential part of measures to promote safe motherhood in these countries, efforts should be concentrated in the coming years to promote the use of magnesium sulphate for the prevention and treatment of eclampsia. Such efforts should include advocacy at national and international levels to build awareness of the benefits of magnesium sulphate, public health education (and possibly safety nets) to increase women's access to institutional care during pregnancy and delivery, training and re-training of health care workers on the use of magnesium sulphate, the development and dissemination of related clinical practice guidelines and protocols, and intensification of political will to address the systemic barriers that limit the widespread availability of magnesium sulphate in many countries.

In conclusion, the prevention and effective management of eclampsia is an important and critical measure to reduce the present high rate of maternal mortality in developing countries. Magnesium sulphate has proven to be a critical and important clinical tool to reduce the burden of eclampsia in many countries. In the coming years, the commitment of countries to reduce high rates of maternal mortality will be assessed by the extent to which they integrate the use of magnesium sulphate into their national clinical practice procedures.

References

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