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[Intervention Review]

Magnesium sulphate versus phenytoin for eclampsia

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ABSTRACT

Background

Eclampsia, the occurrence of a convulsion (fit) in association with pre-eclampsia, remains a rare but serious complication of pregnancy. A number of different anticonvulsants are used to control eclamptic fits and to prevent further convulsions.

Objectives

The objective of this review was to assess the effects of magnesium sulphate compared with phenytoin when used for the care of women with eclampsia. Magnesium sulphate is compared with diazepam and with lytic cocktail in other Cochrane reviews.

Search methods

We searched the Cochrane Pregnancy and Childbirth trials register (28 November 2002) and the Cochrane Central Register of Controlled Trials (The Cochrane Library, Issue 4, 2002).

Selection criteria

Randomised trials comparing magnesium sulphate (intravenous or intramuscular administration) with phenytoin for women with a clinical diagnosis of eclampsia.

Data collection and analysis

Both reviewers assessed trial quality and extracted data.

Main results

Six trials involving 897 women are included. Most of the data are from trials of good quality. Magnesium sulphate is associated with a substantial reduction in the recurrence of convulsions, when compared to phenytoin (five trials, 895 women; relative risk (RR) 0.31, 95% confidence interval (CI) 0.20 to 0.47). The trend in maternal mortality favours magnesium sulphate, but this difference is not statistically significant (two trials, 797 women; RR 0.50, 95% CI 0.24 to 1.05). There are also reductions in the risk of pneumonia (RR 0.44, 95% CI 0.24 to 0.79), ventilation (RR 0.66, 95% CI 0.49 to 0.90) and admission to an intensive care unit (RR 0.67, 95% CI 0.50 to 0.89) associated with the use of magnesium sulphate. For the baby, magnesium sulphate was associated with fewer admissions to a special care baby unit (SCBU) (one trial, 518 babies; RR 0.73, 95% CI 0.58 to 0.91) and fewer babies who died or were in SCBU for more than seven days (one trial, 665 babies; RR 0.77, 95% CI 0.63 to 0.95).

Authors' conclusions

Magnesium sulphate appears to be substantially more effective than phenytoin for treatment of eclampsia.

PLAIN LANGUAGE SUMMARY

Magnesium sulphate versus phenytoin for eclampsia

Magnesium sulphate reduces the number of repeat fits in mothers' given phenytoin for eclamptic fits.

Some women develop raised blood pressure along with protein in the urine (pre-eclampsia, or 'toxaemia') in pregnancy, and this can cause considerable ill health for those women and their babies. A few of these women have fits or convulsions (eclampsia), either in pregnancy or shortly after birth. Some of these women die, particularly those in income-poor countries. The review of trials found that magnesium sulphate was more effective than phenytoin in reducing the number of repeat fits and other problems for women. Other drugs have also been compared with magnesium sulphate in other reviews; magnesium sulphate was more effective than these.