Study reveals level of magnesium sulfate to prevent cerebral palsy in preterm infants

June 7 2017

A new study suggests that to optimize neuroprotection and prevent cerebral palsy in extremely preterm infants, women should receive magnesium sulfate to obtain a blood level between 3.7 and 4.4 mg/dL at the time of delivery. The study included 636 women who received magnesium sulfate and 1269 who received placebo.

The findings are important because magnesium sulfate is indicated for neuroprotection of preterm fetuses; however, the optimal dosing schedule to prevent cerebral palsy is not known.

"Women have traditionally received a standard dose of magnesium sulfate to prevent cerebral palsy in the extremely preterm fetus, but this study is the first to use pharmacokinetic modeling to suggest a therapeutic target maternal serum level we should aim for," said Dr. Kathleen Brookfield, lead author of the Journal of Clinical Pharmacology study. "The dose of magnesium sulfate can now be tailored depending on maternal factors and the clinical situation to achieve this target."

Citation: Study reveals level of magnesium sulfate to prevent cerebral palsy in preterm infants (2017, June 7) retrieved 7 October 2023 from https://medicalxpress.com/news/2017-06-reveals-magnesium-sulfate-cerebral-palsy.html

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