Data analysis plan:

The primary data analysis will be performed for all enrolled patients on an intention-to-treat basis. Per protocol data and sensitivity analyses on primary outcomes will be shown in supplementary material. Confounder control of baseline characteristics will not be performed due to the randomized study design.

Dichotomous outcomes will be compared between the groups using a logistic regression model and continuous outcomes by use of a linear model both with adjustment for gestational age, plurality and center of enrollment. The outcomes from the logistic regressions will be presented as odds ratios with 95% confidence intervals and outcomes from the linear models as mean differences with 95% confidence intervals. Robust variance estimation will be used to account for clustering of infants within mothers.

The significance threshold will be set at P of less than 0.05. No interim analyses will be performed during the study period. Analyses will be performed with the use of SAS software, version 9.4.

It is likely that the study will not have the power individually to detect a significant difference between magnesium sulphate and placebo. Instead, the results will be added to an existing meta-analysis followed by a trial-sequential analysis as described by Huusom et al (1).

1. Huusom LD, Secher NJ, Pryds O, Whitfield K, Gluud C, Brok J. Antenatal magnesium sulphate may prevent cerebral palsy in preterm infants-but are we convinced? Evaluation of an apparently conclusive meta-analysis with trial sequential analysis. BJOG. 2011;118(1):1–5.