

Aspirin for prevention of preeclampsia and adverse perinatal outcome in twin pregnancies: a systematic review and meta-analysis

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DOI: 10.36129/jog.2022.S18

Objective. To investigate the potential role of Aspirin in reducing the risk of preeclampsia (PE), as well as adverse maternal and perinatal outcomes in twin pregnancies.

Materials and Methods. Medline, Embase, Google Scholar, Cochrane and Clinicaltrial.gov databases were searched. The primary outcome was the incidence of PE. Secondary outcomes included gestational hypertension, fetal growth restriction (FGR), preterm birth (PTB), gestational age (GA) at birth, and adverse events secondary to aspirin administration. Subgroup analyses according to chorionicity, aspirin dose, and gestational age at administration were also performed. Head-to-head meta-analyses reporting results as summary odds ratios (OR) and mean differences were used.

The conclusion of the meta-analysis on the primary outcome was assessed using GRADE.

Results. Nine studies (2273 twin pregnancies) were included. When considering all studies, the risk of PE was lower in twin pregnancies treated compared to those not treated with aspirin (OR 0.72, 95%CI 0.53-0.99, $p = 0.05$), while there was no significant difference in the risk of gestational hypertension ($p = 0.8$), FGR ($p = 0.6$) or adverse maternal and perinatal events ($p = 0.9$) compared to those not treated. When considering only studies with aspirin dose > 100 mg/day, the risk of PE (OR 0.49, 95%CI 0.25-0.96, $p = 0.04$) was significantly lower in pregnancies taking compared to those not taking aspirin.

Conclusions. Administration of aspirin in women with twin pregnancies reduces the risk of PE. The findings from this study highlight the need for randomized controlled trials elucidating the actual role of aspirin in affecting maternal and perinatal outcome in twin pregnancies.