INPLASY PROTOCOL

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None declared.

The effect of low-dose aspirin for preeclampsia prophylaxis on perinatal outcomes among women with risk factors in different races — a meta-analysis of RCTs

Zhang, RL[1]; Huo, Y[2].

Review question / Objective: **To investigate the effect of low-dose aspirin on perinatal outcomes in women with risk factors for preeclampsia in different races referred to as the yellow and the non-yellow races in this article.**
Condition being studied: **Preeclampsia is a systemic hypertensive disease characterized by elevated blood pressure after 20 weeks of pregnancy, accompanied by proteinuria or other systemic damage.**
Eligibility criteria: **Inclusion criteria: ①History of preeclampsia; multiple pregnancies; chronic hypertension; type 1 or type 2 diabetes; renal disease; ②Primiparous; obesity (BMI≥28kg/m2); family history of preeclampsia (mother or sister); sociodemographic characteristics; ≥35 years of age; personal history factors (e.g., low birth weight infants or infants small for gestational age, history of adverse pregnancy outcomes, pregnancy interval more significant than ten years); ③A positive rollover test; ④A high risk (>1 in 100) for preterm preeclampsia according to the screening algorithm.**

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INTRODUCTION

Review question / Objective: **To investigate the effect of low-dose aspirin on perinatal outcomes in women with risk factors for preeclampsia in different races referred to as the yellow and the non-yellow races in this article.**

Condition being studied: **Preeclampsia is a systemic hypertensive disease**

characterized by elevated blood pressure after 20 weeks of pregnancy, accompanied by proteinuria or other systemic damage.

METHODS

Participant or population: The women in each study had high or intermediate risk factors for preeclampsia.

Intervention: The intervention in the experimental group was regular oral aspirin at 25-150 mg/day.

Comparator: The intervention in the control group was placebo or no preventive drugs.

Study designs to be included: RCT.

Eligibility criteria: Inclusion criteria: ①History of preeclampsia; multiple pregnancies; chronic hypertension; type 1 or type 2 diabetes; renal disease; ②Primiparous; obesity (BMI≥28kg/m2); family history of preeclampsia (mother or sister); sociodemographic characteristics; ≥35 years of age; personal history factors (e.g., low birth weight infants or infants small for gestational age, history of adverse pregnancy outcomes, pregnancy interval more significant than ten years); ③A positive rollover test; ④A high risk (>1 in 100) for preterm preeclampsia according to the screening algorithm.

Information sources: The Mesh terms and keywords of "aspirin" and "preeclampsia" were searched in databases including Embase, PubMed, Cochrane, Wanfang, and CNKI to obtain all RCTs on the use of low-dose aspirin for the prevention of preeclampsia published from the establishment of the database to February 2022.

Main outcome(s): The Primary outcome in our analysis was preeclampsia. Preeclampsia is one of the following two conditions: i. After 20 weeks of pregnancy, random urine protein (++) or 24-hour urine protein ≥ 300 mg and systolic blood pressure ≥ 140 mmHg and/or diastolic blood pressure ≥ 90 mmHg; ii. Systolic blood pressure ≥140mmHg and (or) diastolic blood pressure ≥90mmHg, urine protein negative, but there are complications such as brain, heart, lung, liver, kidney and fetal placental units.

Additional outcome(s): The Secondary outcomes were other maternal adverse events, such as preterm birth, fetal growth restriction, postpartum hemorrhage, and placental abruption.

Quality assessment / Risk of bias analysis: Authors independently assessed the risk of bias in each study using the Cochrane Collaboration tool. Funnel plot was used to assess publication bias.

Strategy of data synthesis: Data were analyzed using RevMan 5.4 provided by the Cochrane Collaboration. The relative risks(RR) of each outcome with their 95% confidence intervals were calculated using fixed or random effects models. The random effects model was used if $P < 0.1$ or $I2 \geq 50\%$; otherwise fixed effects model was used.

Subgroup analysis: According to the ethnicity of each study participants, they were divided into the yellow and the non-yellow groups.

Sensitivity analysis: If I^2≥75% at the time of data analysis, relevant studies were deleted according to sensitivity analysis.

Country(ies) involved: China.

Keywords: Aspirin ; Preeclampsia ; Gestational Hypertension ; Prevention ; Race ; Meta-analysis.

Contributions of each author:

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