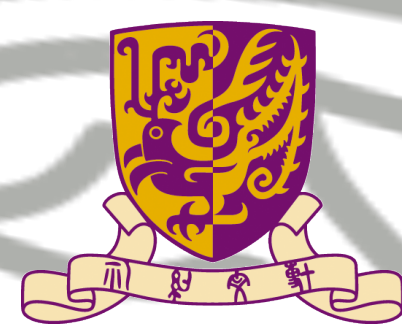


Aspirin delays delivery in pregnancies with clinical evidence of placental dysfunction: evidence from a randomized clinical trial in Asia

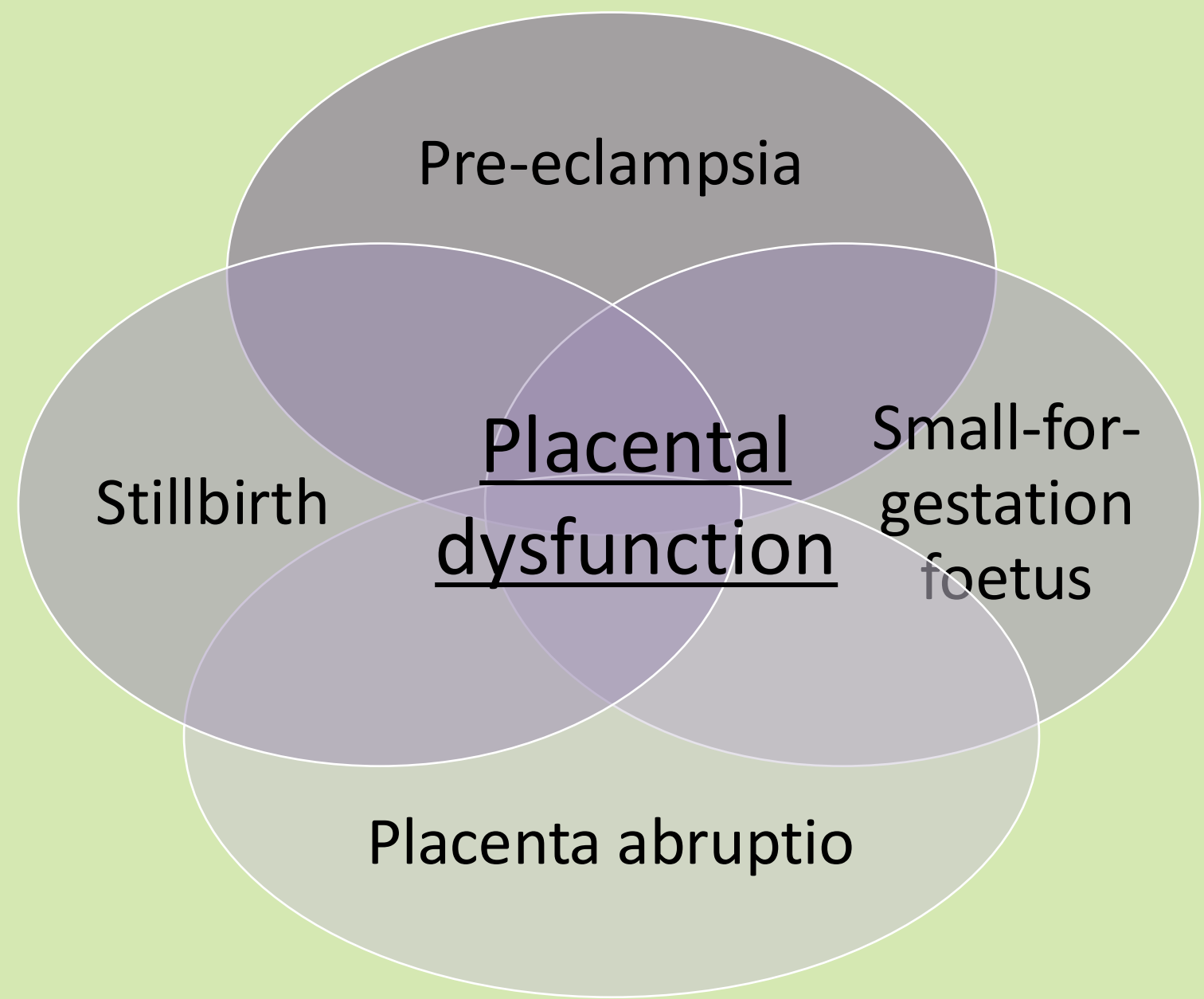


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- Aspirin can significantly **delay delivery** in pregnancies with placental dysfunction
- Aspirin administration was associated with a significant **reduction in placental dysfunction-related complications before 32 weeks** (adjusted relative risk **0.543**, 95%CI 0.330-0.864)

Introduction

- Impaired placentation can lead to placental dysfunction and various pregnancy complications, including **preeclampsia (PE)**, **small-for-gestational-age (SGA)**, **placental abruption** and/or **stillbirth**. These conditions clinically overlap with one another, sharing common risk factors and biomarkers' profiles. This suggests the notion that placental dysfunction could be treated as a **unified spectrum condition**.



- Low-dose aspirin** administered to high-risk women for preterm-PE before 16 weeks of gestation has been shown to **reduce the rates of preterm-PE and preterm-SGA**.
- The question remains whether the delaying effect of aspirin previously reported would also be applicable to pregnancies that fall within the broader clinical spectrum of placental dysfunction.

Objectives

- To evaluate the hypothesis that **aspirin delays gestational age at delivery** in pregnancies with **different phenotypes of placental dysfunction** including preeclampsia, small-for-gestational-age, placental abruption and/or stillbirth

Design

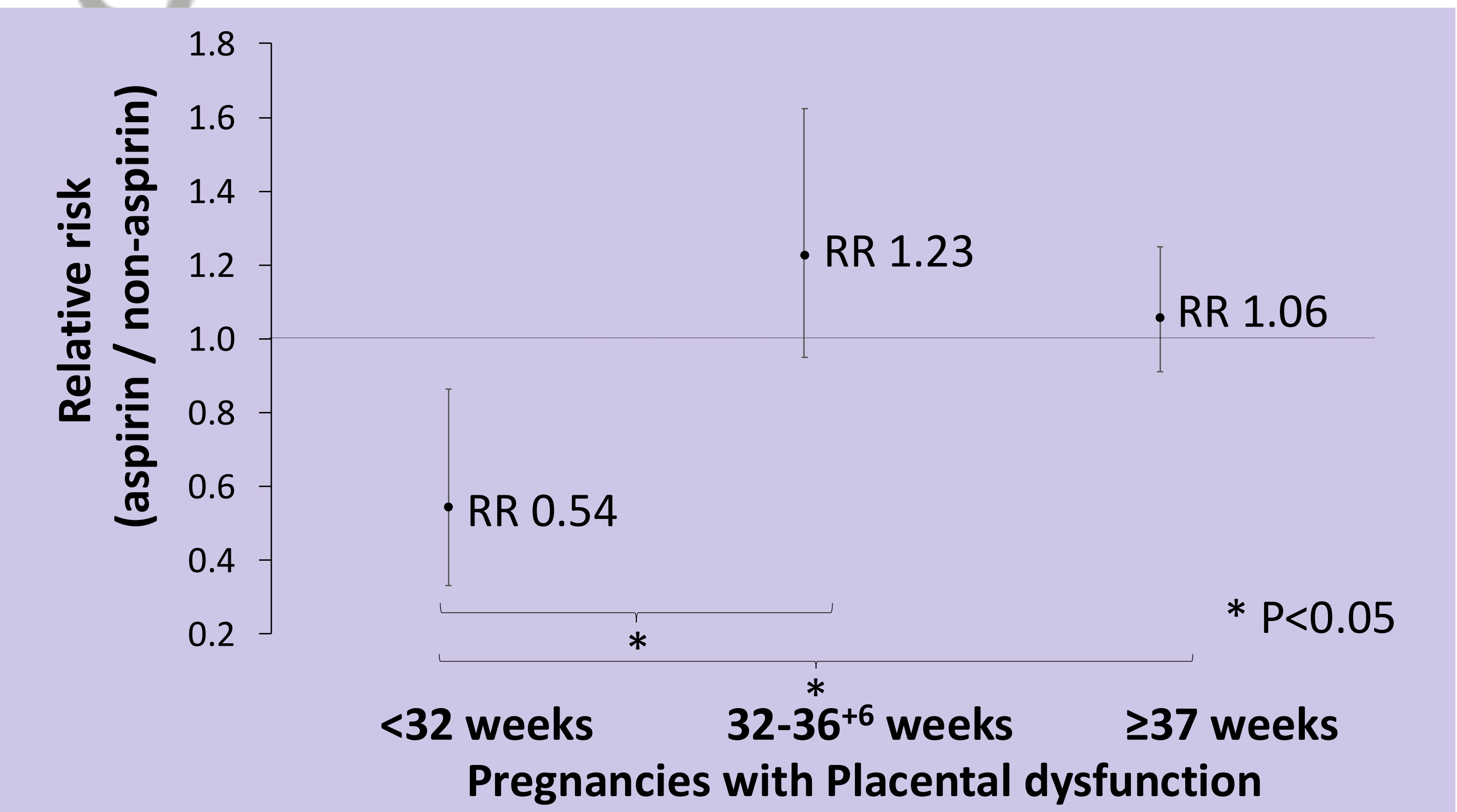
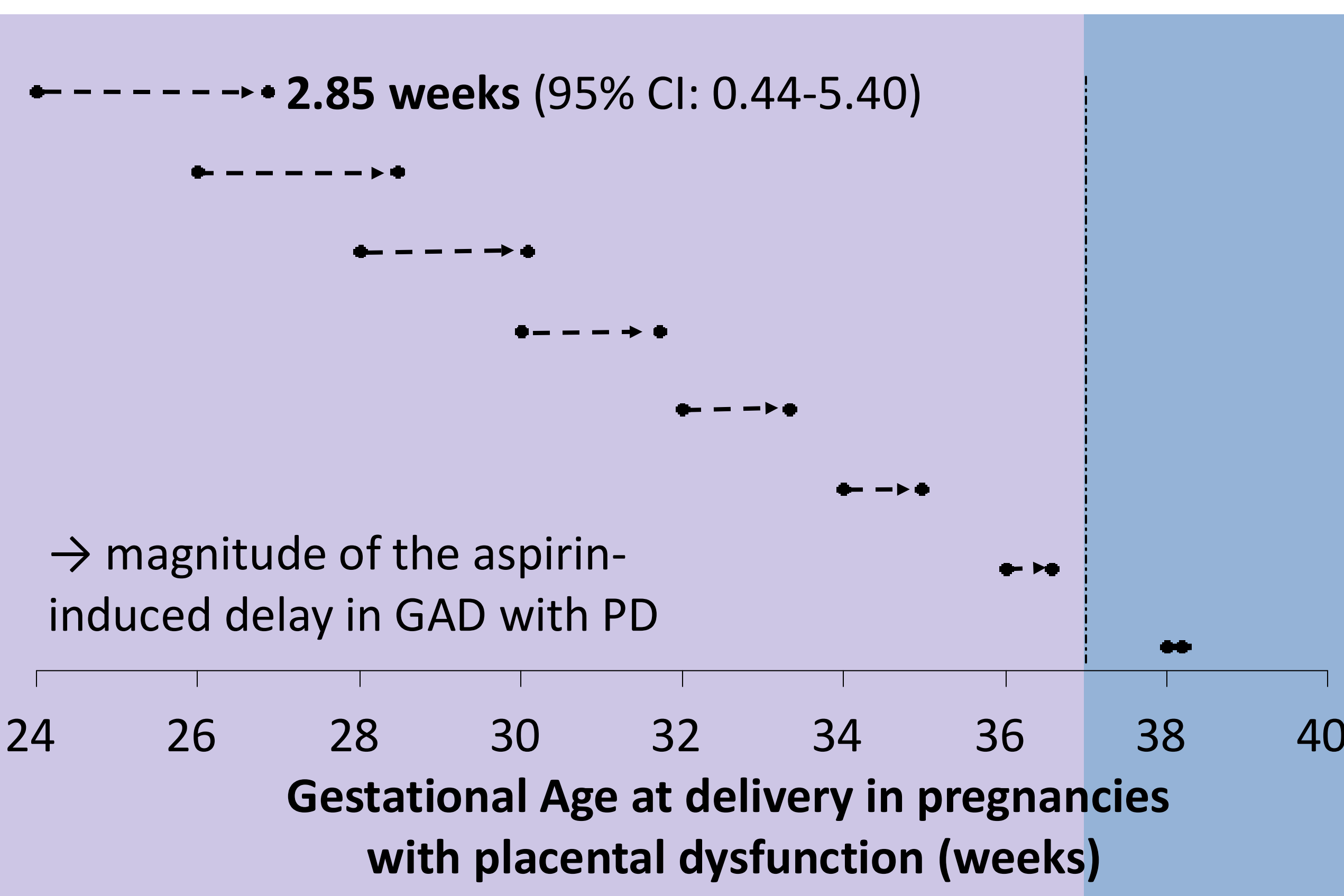
- A **secondary analysis** of a **multicentre stepped wedge cluster randomised trial** of 18 maternity/ diagnostic units from 10 regions in Asia studying singleton pregnancies at 11-13+6 weeks

Methods

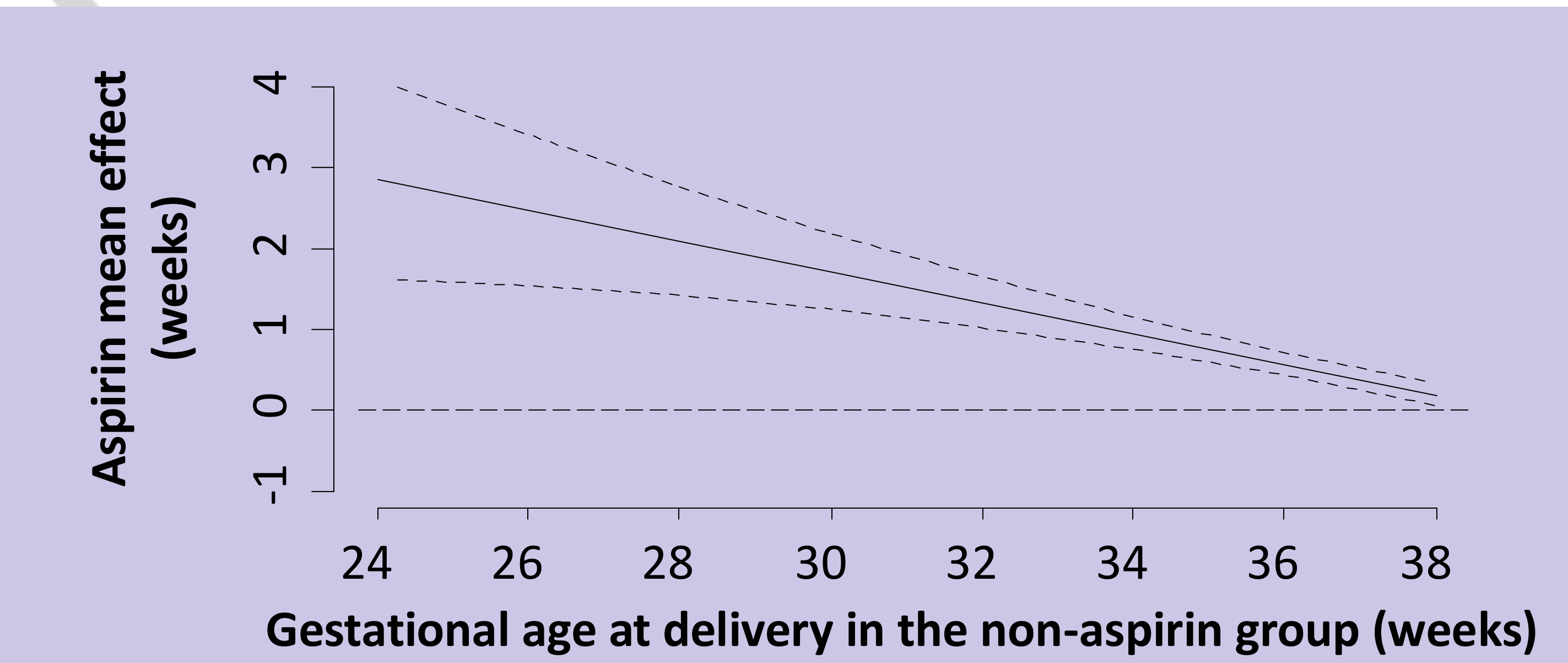
- The effect of aspirin on the incidence of placental dysfunction-related complications was examined.
- An **aspirin-shift model** for placental dysfunction was developed using Gaussian survival regression analysis and fitted within the Bayesian framework.

Results

- 42,897** women underwent preterm-PE screening
 - High risk patients: **1,158** in non-intervention phase + **3,530** in intervention phase
 - 2,909** patients in aspirin group and **621** in non-aspirin group
- The **higher the risk for PE**, the **earlier the gestational age at delivery with placental dysfunction**



- The **earlier the gestation**, the **greater the effect** of aspirin
- At 24 weeks, the aspirin-induced prolongation of pregnancies with placental dysfunction was 2.85 weeks (95% CI 0.44-5.40), and it **progressively decreased by 0.19 weeks** (95%CI -0.33 to -0.05) for each week of gestation



Conclusion

Women at high risk of pre-eclampsia who inevitably develops a spectrum of placental dysfunction including pre-eclampsia, small-for-gestational-age, placental abruption and/or stillbirth, may benefit from aspirin administration in early pregnancy to prolong their pregnancy duration. Aspirin may delay the gestational age at delivery due to placental dysfunction.