

## **Effectiveness of low-dose aspirin for the prevention of preeclampsia in twin pregnancy**

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### **Objective**

The use of aspirin is widely recommended for women with twin pregnancy. However, its effect remains controversial as there lacks real world evidence for the intervention. We aimed to assess the effectiveness of 75-100mg/day aspirin for the prevention of preeclampsia in twin pregnancies.

### **Methods**

This retrospective cohort study was conducted in the Obstetrics and Gynecology Hospital of Fudan University in Shanghai, China, during the period of 2013 to 2020. Women with twin pregnancy who had received prenatal care before 20 weeks of gestational age were included; those women after 20 weeks of gestational age, or with missing information (number of fetuses, gestational age or delivery week), were excluded. Maternal characteristics and medical and obstetrical histories were recorded. This cohort of women were divided into 2 groups: LDA group (women using low dose aspirin, LDA) and NC group (women not using aspirin). Primary outcome was the incidence of preeclampsia, and secondary outcomes included early onset and preterm mild and severe preeclampsia. Covariates adjustment, 1: 2 case-matched analysis and subgroup analysis (update of clinical guideline, ART and aspirin dosage) were also performed. Ethic approval was obtained from the research ethics committee of Fudan University (FE21194).

### **Results**

Among all the 106,388 deliveries during 2013-20, 2,946 (2.77%) women were of twin pregnancy. Of 2,705 eligible women, 291 (10.75%) took aspirin and the other 2,414 (89.25%) did not. Preeclampsia occurred in 106 of 291 participants (36.43%) in LDA group, as compared with 449 of 2,411 (18.62%) in NC group (95% CI for adjusted OR: 1.300 to 2.331;  $P < 0.001$ ). The association was confirmed (95% CI for adjusted OR: 1.206 to 2.270;  $P = 0.002$ ) in the 1: 2 case-matched analysis. Higher odds of ratio in LDA group for early-onset and preterm mild preeclampsia, were demonstrated (aORs  $> 1$ ,  $P < 0.01$ ); with regards to severe preeclampsia, but there was no significant difference of odds of ratios between LDA group and NC group ( $P > 0.05$ ). This association was also confirmed in subgroup analysis of pre- and post- 2016 clinical guideline, usage of ART and aspirin dosage (aORs  $\geq 1$ ,  $P < 0.05$ ).

### **Conclusion**

Aspirin at a dose of 75-100mg daily was not effective for the prevention of preeclampsia in twin pregnancy. Further research of different dosage regimens is required.