

Preeclampsia in twin pregnancies: impact of chorionicity and number of liveborn infants

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Objective

To investigate the incidence of preeclampsia in an unselected national cohort of twin pregnancies and to assess the association between the development of preeclampsia and chorionicity. In addition to investigate the incidence of preeclampsia in twin pregnancies resulting in only one liveborn infant.

Methods

Data on 6348 twin pregnancies; 973 monochorionic (MC) twin pairs and 5375 dichorionic (DC) twin pairs with infants born between 2008 and 2014 were obtained from the Danish Fetal Medicine Database. Only pregnancies with known chorionicity from the first trimester risk assessment and with at least one infant born after 22 gestational weeks were included. The incidence of preeclampsia was compared between MC and DC pregnancies and between those with one versus two born infants using a logistic regression using a model adjusting for maternal age, BMI, smoking and gestational age at delivery.

Results

The incidence of preeclampsia in the MC group was 9.2% (n=90, 95% CI: 7.4% to 11.1%) and in the DC group 8.7% (n = 469, 95% CI: 8.0% to 9.5%). There was no evidence of an effect of chorionicity on the risk of preeclampsia. The OR (MC relative to DC) was 0.88 (95% CI 0.69-1.12) in all pregnancies, and in pregnancies with two liveborn infants the OR (MC relative to DC) was 0.90(95% CI 0.70-1.15). In pregnancies with only one infant born the incidence of preeclampsia was 1.4% (1/69; 95% CI 0.0% to 4.3%) in the MC group and 2.8% (9/323; 95% CI 1.0% to 4.6%) in the DC group.

Conclusion

In this large national cohort the incidence of preeclampsia in twin pregnancies was not associated with chorionicity. In both MC and DC pregnancies resulting in only one infant the incidence of preeclampsia was reduced compared to the incidence in pregnancies with two.