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Adverse pregnancy outcomes in women at increased risk of preterm preeclampsia

Minopoli M, Noël L, Meroni A, Mascherpa M, Frick A, Thilaganathan B
St George's Hospitals NHS Foundation Trust, London, United Kingdom

Objective

Uteroplacental dysfunction may not only result in preeclampsia (PE), but also in preterm birth (PTB), small for gestational age (SGA) birth and stillbirth. The aim of this study is to evaluate the positive predictive value (PPV) of first-trimester combined PE screening for all these placentally-mediated adverse pregnancy outcomes.

Methods

This is a retrospective cohort study conducted in a tertiary referral maternity unit on 13,211 singleton pregnancies that underwent first-trimester combined screening for preterm PE using the Fetal Medicine Foundation (FMF) algorithm. Hypertensive disorders of pregnancy (HDP), PTB, SGA birth and stillbirth were combined to assess composite adverse pregnancy outcomes (CAPO and CAPO-S). The PPVs for CAPO and CAPO-S were calculated for women with a combined risk for preterm PE ≥1 in 50 and ≥1 in 100.

Results

First trimester combined screening test identified 2215 women (16.8%) with a risk ≥1 in 100 for preterm preeclampsia. The PPVs for a risk ≥1 in 100 for CAPO and CAPO-S were 38.8% and 18.2%, respectively. The equivalent PPVs for a risk ≥1 in 50 were 45.1% and 21.1%, respectively.

Conclusion

Women identified at high risk of preterm PE are also at increased risk of other placentally-mediated adverse pregnancy outcomes, such as PTB, SGA birth, and stillbirth. Women at high risk for preterm PE after first-trimester screening may benefit from a higher surveillance care pathway with interventions to mitigate all the adverse outcomes associated with placental dysfunction.