

## **Preeclampsia screening in Denmark (PRESIDE); A national implementation study**

Riishede I, Rode L, Sperling L, Overgaard M, Sandager P, Wagner S, Nørgaard P, Clausen TD, Pihl K, Jørgensen FS, Zingenberg HJ, Pedersen NG, Wright A, Wright D, Tabor A, Ekelund CK

Copenhagen University Hospital, Copenhagen, Denmark

### **Objective**

To evaluate first trimester combined screening for preterm preeclampsia in a Danish population.

### **Methods**

Singleton pregnant women who came for their first trimester screening scan were included at six Danish university hospitals between May 2019 and December 2020. Prenatal data including maternal history, mean arterial pressure (MAP), uterine artery pulsatility index (PI), PAPP-A and PIGF measurements were collected without performing a risk assessment for preeclampsia. Aspirin use was registered. After delivery, pregnancy outcome including gestational age at delivery and preeclampsia diagnoses were collected. The risk assessment for each woman was calculated blinded for outcome using the Fetal Medicine Foundation (FMF) algorithm.

### **Results**

The following are preliminary results. A total of 8,791 pregnant women were included with a mean age of 31 years. The majority were white (94 %) women with a spontaneous conception (91 %), non-smokers (96.7%) and had no family history of preeclampsia (96.4 %). The mean BMI was 23.5 kg/m<sup>2</sup>. Uterine artery PI was measured bilaterally with a median value of 1.61 and the mean resting MAP was 80.5 mmHg in three consecutive measurements. Pregnancy outcome parameters were available for 8,791 (99.5%). In the final cohort, 326 (3.7%) developed preeclampsia, including 246 (2.8%) cases of late-onset preeclampsia (> 37w), 62 (0.7%) cases of preterm preeclampsia (<37w) and 18 (0.2%) cases of early-onset preeclampsia (<34w). At a screen-positive rate of 10%, the detection rate (DR) for early-onset preeclampsia was 72.2% (95% CI; 46.5-90.3), whereas DR for preterm preeclampsia was 64.5% (51.3-76.3) and 43.1% (37.5-48.5) for all preeclampsia.

### **Conclusion**

A large Danish multicenter study has been performed with successful inclusion of 8,791 singleton pregnancies. A total of 3.7% developed preeclampsia and 0.9% had PE < 37w. The FMF algorithm predicted 43.1% of all preeclampsia cases and 64.5 % of PE < 37w suggesting good reproducibility in a Danish cohort.