## First-trimester screening for pre-eclampsia: time to act

Pre-eclampsia (PE), especially preterm PE, is a very serious pregnancy complication with high perinatal mortality; in developing countries, it is also a major contributor to maternal death. Extensive research in the last 45 years has established that the pathogenesis of preterm PE is impaired placentation and that effective screening for preterm PE (detection rate of about 75% at screen-positive rate of 10%) can be achieved at 11–13 weeks' gestation by analysis of a combination of maternal characteristics and medical history together with uterine artery Doppler and other biomarkers.

Several published trials have examined the potential value of aspirin in the prevention of PE, but they reported contradictory results due to methodological differences related to selection of high-risk groups, gestational age at onset of therapy, dose of aspirin and outcome measures of preterm, term or total PE. However, despite these confounders, it appeared that aspirin prophylaxis had a positive effect providing that it was administered before the 16$^{th}$ week of gestation and the outcome measure was preterm PE rather than total PE.

In the ASPRE trial, 26 941 women with singleton pregnancy from 13 centers in six European countries underwent screening by means of an algorithm that combines maternal factors with biomarkers at 11–13 weeks' gestation[1]. Those with an estimated risk for preterm PE of > 1 in 100 were invited to participate in a double-blind trial of aspirin (150 mg/day) *vs* placebo from 11–14 weeks until 36 weeks' gestation. In the 1620 women that participated in the trial, use of aspirin was associated with a 62% reduction in preterm PE and 82% reduction of PE at < 34 weeks' gestation; no significant reduction was observed in the risk of term PE.

It is important for the readership of *Ultrasound in Obstetrics & Gynecology* to be aware of these data because they clearly establish that preterm PE is now, to a great extent, predictable and preventable, which is good news for mothers and babies throughout the world.

Drs Prefumo and Farina[2] are concerned that the performance of the screening algorithm used in the ASPRE trial is not identical to that achieved in other populations, in which different algorithms, combinations of biomarkers and outcome measures of PE < 37, PE < 34 or PE < 32 weeks' gestation were used. However, such differences are inevitable and clinically irrelevant considering that screening by a combination of maternal factors and biomarkers strongly outperforms the existing criteria recommended by NICE and ACOG[3].

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