First trimester screening program for preterm preeclampsia prediction in an Italian obstetric population and aspirin prophylaxis: our preliminary results

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Objective. Our objective was to assess the performance of a combined screening test for preeclampsia in the first trimester and the prophylactic use of low-dose aspirin.

Materials and Methods. Prospective ongoing study of women attending our hospital for the first-trimester screening of aneuploidies, between November 2022 and October 2023 (n = 975). Multiple pregnancies and foetal abnormalities were excluded. First-trimester combined screening for preterm preeclampsia was performed using the Fetal Medicine Foundation algorithm, that includes maternal characteristics, biophysical and biochemical biomarkers. High-risk was defined as a risk ≥ 1:150 of preterm preeclampsia (before 37 weeks), in which cases low-dose aspirin (150 mg) was offered to these women from screening until 36 weeks.

Results. From the 975 enrolled participants, the majority were caucasian (n = 932, 95.6%) and nulliparous (n = 658, 51.7%). 162 patients (16,6%) screened high-risk for preeclampsia, and 95% agreed to start a low-dose aspirin regimen. We analysed obstetric outcomes of the first 300 women enrolled: no cases of early-onset preeclampsia (< 34 weeks) were found; the rate of preterm preeclampsia (< 37 weeks) was 1.6% and total preeclampsia was diagnosed in 2.3% of women compared with 0.5% rate of early preeclampsia and 3.2% of total preeclampsia before the implementation of screening.

Conclusions. There was a lower incidence of early, preterm and total preeclampsia, after the introduction of universal screening and prophylactic use of low-dose aspirin. The association of a first-trimester combined screening model and aspirin prophylaxis appears to be useful in predicting and reducing the incidence of preeclampsia, in a routine care setting.