

Adverse foetal outcomes in patients with increased risk of preterm preeclampsia in the first trimester of pregnancy: a prospective study

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Objective. To assess the rate for placenta-mediated adverse pregnancy outcomes (preeclampsia, preterm birth PTB, small for gestational age SGA) in women at high risk of preterm preeclampsia in the first trimester and to evaluate a possible association between placental dysfunction and foetal abnormalities.

Materials and Patients. Pregnant patients were offered first trimester screening for preterm preeclampsia based on the Fetal Medicine Foundation algorithm; with a risk score $\geq 1:150$ were recommended to use aspirin (150 mg/day) from screening until 36 weeks.

Between November 2022-October 2023, 975 patients were enrolled. 162 patients (16%) screened positive for preeclampsia. From this cohort, we analysed 400 pregnancy outcome records: 76 at high risk (HR) for preeclampsia, 324 at low risk (LR).

Results. HR women showed higher rate of preterm preeclampsia (2.63%) compared to LR women (0.3%). The rates of gestational hypertension (11%) and SGA (14.5%) were also higher in the HR group (respectively 2.5% and 9.2% in the LR group). The HR group showed a higher rate of early and late PTB (1.3% and 11% vs 0.9% and 3.1% in LR group). Congenital anomalies in euploid foetuses were more frequent in HR patients (7.9%) compared to LR ones (4.6%).

Women identified at HR of preterm preeclampsia are also at increased risk of other placenta-mediated adverse pregnancy outcomes (PTB, SGA); they may benefit from a higher surveillance care pathway.

Conclusions. The risk of foetal structural anomalies is greater in HR women: we recommend a careful foetal anatomical ultrasound evaluation in the first and second trimester to early identify foetal structural anomalies.