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Management of pregnacies at high risk of preeclampsia or/and fetal growth restriction

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Objective

There are effective tools for screening (1st trimester screening), early prediction and early diagnosis (sFlt/PlGF, flowmetry) of preterm PE and FGR. In 2018 we introduced a new management for HR PE and HR FGR patients based on serial ultrasonographic evaluations and blood sampling in our department. The goal of our study was to determine the effectivity and cost-benefit of our management.

Methods

In this retrospective study we included patients who tested positive for PE and FGR during 1st trimester screening and were later observed and delivered between 1/2018 and 6/2021 in our department. Both PlGF and PAPP-A were used for 1st trimester screening. The calculation was performed with Astraia software with cut-off 1: 100. Positive tested patients were recommended to take 150mg of Aspirine daily (if no history of chronic hypertension). Biometry and measurement of uterine arteries flow was performed in 20-22, 28 and 36 week of gestation. The sFlt-1/PlGF ratio was measured at 24,28,32 and 36 weeks of gestation.

Results

In total 219 patients were included in the study. The cases were divided in 2 groups according to the presence of the uterine artery hypoperfusion at 20-22 week. Group 1 (N 65) with uterine artery hypoperfusion and group 2 (N 154) without hypoperfusion. In group 1, 41,5% patient had a positive sFlt-1/PlGF ratio (above 38) and the median of positivity was 30 weeks. The median of delivery was 36 weeks (28-41). In group 2, the elevation of sFlt-1/PlGF ratio was recorded in 12,3% cases and the median of positivity was 34 week. In group 2 there were only 3 cases of preterm delivery but non of them was due to placental dysfunction. Median of delivery in group 2 was 38 weeks.

Conclusion

Searching for uterine artery hypoperfusion in 20-22 weeks improves the early diagnosis and management of the patients with the 1st trimester high risk PE or/and FGR. Serial evaluation of sFlt-1/PlGF ratio in patients without uterine artery hypoperfusion is of a very small clinical benefit.