SCREENING FOR PREECLAMPSIA
USING sFlt-1/PIGF RATIO CUT-OFF OF 38
AT 27-37 WEEKS GESTATION

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Objective:
To evaluate a soluble fms-like tyrosine kinase-1 (sFlt-1) to placental growth factor (PIGF) ratio cut-off of 38 for the prediction of pre-eclampsia (PE) in routine assessment at 27–37 weeks’ gestation in singleton pregnancies at risk for PE/SGA on basis of the first-trimester combined screening and with the prophylactic use of low-dose aspirin started in early pregnancy.

Methods:
This was a prospective observational study in women at risk for PE/SGA attending three recommended third-trimester ultrasound scans at about 28, 32 and 36 weeks. Serum sFlt-1 and PIGF were measured and their ratio was calculated. We estimated the detection rate (DR), false-positive rate (FPR), positive predictive value (PPV) and negative predictive value (NPV) of sFlt-1/PIGF ratio >38 for the prediction of delivery with PE at <1, <4 and ≥4 weeks after assessment.

Results:
The study population of 192 singleton pregnancies was examined about 3 times (n = 508) for sFlt-1/PIGF ratio and included 11 (2.2%), 31 (6.1%) and 25 (4.9%) cases that subsequently delivered with PE at <1, <4 or ≥4 weeks’ after assessment, respectively. The DR, FPR, PPV and NPV of sFlt-1/PIGF ratio >38 in the prediction of delivery with PE at <1 week were 100%, 16.9%, 11.6% and 100%, respectively; the values for delivery with PE at <4 weeks were 96.8%, 13.6%, 31.6% and 99.8% and for delivery with PE ≥4 weeks were 44%, 17.4%, 11.6% and 96.6%.

Conclusion:
The sFlt-1/PIGF ratio <38 is strong for exclusion delivery with PE at <1 and at <4 weeks after assessment and the sFlt-1/PIGF ratio >38 is poor for the prediction of delivery with PE at ≥ 4 weeks after assessment. However, the DR for delivery with PE at <1 and at <4 weeks after assessment seems very high, there is high FPR as well.