Introduction
Placental syndrome (PS):
• Definition: pre-eclampsia <34 wks, intra-uterine growth restriction HELLP and placental abruption
• significant cause of maternal and perinatal mortality and morbidity
• repeated measurements of biomarkers are suggested to improve the prognostic value in screening

Aim: to assess the diagnostic performance of longitudinal sFlt-1/PIGF ratio measurements in predicting the development of PS

Methods
• Retrospective cohort study, singleton, high risk pregnancies
• January 2015-December 2017 in MUMC
• Late pre-eclampsia > 34 weeks
• PIH: pregnancy induced hypertension

Results

<table>
<thead>
<tr>
<th>sFlt-1/PIGF ratio (pg/ml)</th>
<th>Reference group (n=133)</th>
<th>PS (n=43)</th>
<th>p-value</th>
<th>Late PE (n=16)</th>
<th>p-value</th>
<th>PIH (n=15)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>30 wks</td>
<td>3.36 (2.05-5.92)</td>
<td>6.90 (2.97-13.71)</td>
<td>&lt;.001</td>
<td>5.61 (1.67-14.57)</td>
<td>.319</td>
<td>2.67 (1.95-5.21)</td>
<td>.467</td>
</tr>
<tr>
<td>Δ 12-20</td>
<td>-0.77±0.15</td>
<td>-0.58±0.77</td>
<td>.011</td>
<td>-0.81±0.14</td>
<td>.715</td>
<td>-0.74±0.15</td>
<td>.755</td>
</tr>
<tr>
<td>Δ 12-30</td>
<td>-0.83±0.31</td>
<td>-0.63±0.80</td>
<td>.032</td>
<td>-0.82±0.16</td>
<td>.955</td>
<td>-0.81±0.31</td>
<td>.911</td>
</tr>
<tr>
<td>Δ 16-30</td>
<td>-0.62±0.61</td>
<td>-0.27±1.00</td>
<td>.008</td>
<td>-0.54±0.34</td>
<td>.680</td>
<td>-0.69±0.32</td>
<td>.722</td>
</tr>
<tr>
<td>Δ 20-30</td>
<td>-0.56 (-0.70-0.32)</td>
<td>-0.38 (-0.54-0.67)</td>
<td>&lt;.001</td>
<td>-0.50 (-0.72-0.56)</td>
<td>.372</td>
<td>-0.58 (-0.70-0.08)</td>
<td>.974</td>
</tr>
</tbody>
</table>

Table 1. One-way analysis of variance with post-hoc test. Mean ±SD. Not normally distributed data Mann-Whitney U, median + interquartile range. P-value <0.05

AUC PS vs reference
• sFlt-1/PIGF 30 wks: 0.69 (0.60-0.78)
• sFlt-1/PIGF 12-30 wks: 0.70 (0.61-0.80)
• sFlt-1/PIGF 16-30 wks: 0.70 (0.61-0.79)

Conclusion
• Different biomarker profile between PS and reference group
• Relative delta values have a limited additional value in this study group
• Larger prospective longitudinal study design is required