

MATERNAL CARDIAC FUNCTION AND GEOMETRY FOR THE PREDICTION OF LATE-PLACENTAL INSUFFICIENCY AT THE BEGINNING OF THIRD-TRIMESTER

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Objective: To compare in high-risk pregnancies the maternal haemodynamic and cardiac geometry at 27-28 weeks between pregnancies subsequently developing PE or SGA.

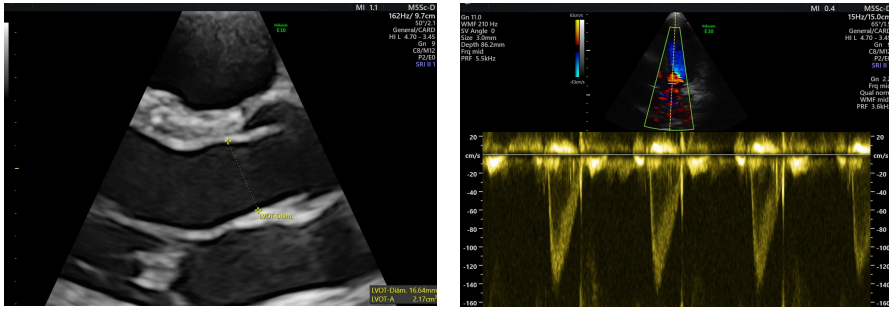
Methods:
Prospective observational study including singleton pregnancies with RCOG criteria for serial scanning.
Maternal echocardiography between 27+0 and 28+6 weeks.
SGA = BW <10thcentile (Local curves references)
PE = ISSHP guidelines
Three non-exclusive groups: group 0: nor PE/SGA; group 1: PE +/- SGA and group 2: SGA.
Mean and SD of each parameter by group. The 3 groups compared using the Kruskal–Wallis test for non-parametric parameters with pairwise comparisons.

Results:

- 151 high-risk pregnancies were included
- Maternal echocardiography was performed at 27.8 weeks (SD 0.48).
- Mean GA at delivery was 39.1 weeks (SD 1.6). The median BW centile was 46 (SD 3).

VARIABLE	GROUP 0 (no-PE, no-SGA) (n=122)	GROUP 1 (PE +/- SGA) (n=7)	GROUP 2 (SGA) (n=22)	p
SBP (mmHg)	112.36	121.29	112.64	0.073
DBP (mmHg)	64.81	71.86	66.95	0.065
MAP (mmHg)	80.66	88.33*	82.18	0.034
HR (bpm)	79.47	86.29	80.18	0.186
CI (L/min/m ²)	2.614 (n=120)	2.577	2.545	0.878
SV (mL)	60.351	54.669	57.486	0.176
CO (L/min)	4.764	4.701	4.598	0.748
SVR (din/seg/cm ⁵)	1401.77	1548.58	1474.71	0.232
IVSd (cm)	0.697 (n=121)	0.720	0.689 (n=21)	0.807
LVEDD (cm)	4.944 (n=121)	4.945	4.634 (n=21)**	0.022
PWd (cm)	0.633 (n=121)	0.619	0.645 (n=21)	0.765
LVMI (g/m ²)	58.058(n=119)	59.077	53.205 (n=21)	0.309

Bpm: beats per minute; SBP: systolic blood pressure; DBP: diastolic blood pressure; MAP: mean arterial pressure; HR: heart rate; CI: Cardiac index; SV: stroke volume; CO: cardiac output; SVR: systemic vascular resistance; IVSd: end-diastolic thickness of interventricular septum; LVEDD: left ventricle end-diastolic dimension; PWd: end-diastolic thickness of left ventricle posterior wall; LVMI: left ventricle mass index. *Differences group 0 vs group 1, p<0.05; ** differences group 0 vs group 2, p<0.05



Conclusion: At 27-28 weeks, pregnant women who will subsequently develop PE show higher arterial pressure values, and women who will deliver an SGA baby have smaller LVEDD