

Supplementary Table S5. Associations between first-trimester trajectories vascular density (number of uPVS points per cm³ uPVV) and first-trimester trajectories of embryonic growth and development, stratified for conception mode, fetal sex, and occurrence of placenta-related complications.

	Crown rump length (mm)		Embryonic volume (cm ³)		Carnegie stage (N = 23)	
	Adjusted model		Adjusted model		Adjusted model	
	β [95% CI]		β [95% CI]		OR [95% CI]	
Conception method						
Morphologic characteristics	IVF/ICSI (n = 81)	Natural (n = 117)	IVF/ICSI (n = 81)	Natural (n = 112)	IVF/ICSI (n = 77)	Natural (n = 120)
ln Density of endpoints (n/cm ³)	-0.047 [-1.732; 0.079]	-0.152 [-0.277; -0.028]*	-0.040 [-0.092; 0.013]	-0.037 [-0.101; 0.027]	0.607 [0.108; 3.417]	0.744 [0.062; 9.012]
ln Density of bifurcation points (n/cm ³)	-0.077 [-0.322; 0.168]	-0.139 [-0.374; 0.096]	-0.088 [-0.189; 0.012]	-0.004 [-0.120; 0.113]	1.065 [0.033; 34.455]	2.280 [0.036; 144.367]
ln Density of crossing points (n/cm ³)	-0.070 [-0.339; 0.199]	0.023 [-0.259; 0.306]	-0.064 [-0.182; 0.055]	0.043 [-0.096; 0.182]	1.972 [0.0438; 88.915]	3.381 [0.015; 777.435]
Fetal sex						
Morphologic characteristics	Male (n = 99)	Female (n = 97)	Male (n = 97)	Female (n = 94)	Male (n = 102)	Female (n = 95)
ln Density of endpoints (n/cm ³)	-0.145 [-2.62; -0.029]*	-104 [-0.247; 0.039]	-0.025 [-0.095; 0.044]	-0.055 [-0.113; 0.004]	0.616 [0.097; 3.939]	0.379 [0.013; 11.17]
ln Density of bifurcation points (n/cm ³)	-0.239 [-0.472; -0.006]	-0.052 [-0.312; 0.207]	0.006 [-0.127; 0.139]	-0.068 [-0.174; 0.038]	0.208 [0.002; 15.402]	6.524 [0.023; 1817.385]
ln Density of crossing points (n/cm ³)	-0.103 [-0.382; 0.177]	0.050 [-0.246; 0.346]	0.049 [-0.110; 0.208]	-0.027 [-0.148; 0.095]	0.087 [0.000; 24.044]	12.981 [0.040; 4233.849]
Placenta-related complications						
Morphologic characteristics	With (n = 50)	Without (n = 148)	With (n = 45)	Without (n = 148)	Without (n = 146)	With (n = 51)
ln Density of endpoints (n/cm ³)	-0.230 [-0.422; -0.037]*	-0.093 [-0.196; 0.010]	-0.044 [-0.168; 0.080]	-0.043 [-0.088; 0.002]	2.089 [0.230; 18.959]	0.066 [0.000; 8.561]
ln Density of bifurcation points (n/cm ³)	-0.216 [-0.579; 0.147]	-0.093 [-0.294; 0.108]	0.015 [-0.198; 0.227]	-0.054 [-0.142; 0.034]	22.998 [0.291; 1818.923]	0.032 [0.000; 65.405]
ln Density of crossing points (n/cm ³)	-0.066 [-0.503; 0.370]	-0.008 [-0.236; 0.220]	0.037 [-0.223; 0.297]	-0.001 [-0.102; 0.101]	15.530 [0.175; 1379.868]	0.0121 [0.000; 1073.844]

Depicted are adjusted estimates: adjusted for maternal age, parity, conception mode, BMI, smoking, folic acid supplement use, and fetal sex. Groups stratified for conception mode were not adjusted for conception mode. Groups stratified for fetal sex were not adjusted for fetal sex. Placenta-related complications are specified as PIH or PE and/or FGR, PTB, and SGA; diagnoses may be overlapping. uPVS, utero-placental vascular skeleton; uPVV, utero-placental vascular volume; PIH, pregnancy-induced hypertension; PE, preeclampsia; FGR, fetal growth restriction; PTB, pre-term birth (including both spontaneous and iatrogenic PTB); SGA, small-for-gestational-age. Bold text indicates a statistically significant association. Significance at * $P \leq 0.05$.