

# A metabolomic profiling of intra-uterine growth restriction in placenta and cord blood points to an impairment of lipid and energetic metabolism

## Supplementary Tables S1–S3

**Supplementary Table S1.** Description of the placenta cohort P1 (N = 40) and comparison of characteristics of the IUGR and control groups. Quantitative data are expressed as an average and quartiles as the standard deviation. Qualitative data are expressed in numbers and percentages N (%). Significantly different data are presented in bold (p <0.05). BMI = body mass index, IUGR = intrauterine growth restriction.

		Control Group n = 20	IUGR Group n = 20	p	
Maternal data	Age (years)	31.9 (5.2)	28.7 (4.9)	0.05	
	BMI	24.1 (5.4)	23.8 (3.7)	NS	
	Tobacco during pregnancy	3 (15)	8 (40)	0.06	
Obstetric data	Gestity	3.6 (1.9)	2.7 (2.1)	NS	
	Parity	2.3 (1.3)	1.4 (1.0)	0.02	
	Type of delivery	Vaginal delivery C-section	0 (0) 20 (100)	5 (25) 15 (75)	0.005
Newborn data	IUGR	0 (0)	20 (100)	<0.001	
	Gestational age	38.7 (0.6)	36.4 (1.9)	<0.001	
	Gender	Boy Girl	9 (45) 11 (55)	9 (45) 11 (55)	NS
	Birth weight (z-score)	-0.1 (0.8)	-2.2 (0.6)	<0.001	
	Birth weight (g)	3289.3 (400.3)	1817.7 (392.1)	<0.001	
	Birth size (z-score)	-0.4 (0.8)	-2.3 (0.8)	<0.001	
	Birth size (cm)	49.0 (1.6)	42.4 (2.1)	<0.001	
	Birth head circumference (z-score)	-0.1 (0.9)	-1.4 (0.8)	<0.001	
	Birth head circumference (cm)	34.3 (1.4)	30.7 (2.0)	<0.001	
	APGAR	10.0 (0.2)	9.4 (2.3)	NS	
Resuscitation at birth		0 (0)	2 (10)	NS	
Hospitalization		0 (0)	15 (75)	<0.001	

**Supplementary Table S2.** Description of the placenta cohort P2 (n = 46) and comparison of characteristics of the IUGR and control groups. Quantitative data are expressed as an average and quartiles as the standard deviation. Qualitative data are expressed in numbers and percentages N (%). Significantly different data are presented in bold (p <0.05). BMI = body mass index, IUGR = intrauterine growth restriction.

		Control Group		IUGR Group	<b>p</b>
		<b>n = 22</b>	<b>n = 24</b>		
Maternal data	<b>Age (years)</b>	32.0 (4.1)	29.9 (6.5)		NS
	<b>BMI</b>	27.5 (6.9)	26.3 (9.3)		NS
	<b>Tobacco during pregnancy</b>	1 (4.5)	6 (25)		0.07
Obstetric data	<b>Gestity</b>	3.0 (1.9)	2.4 (2.0)		NS
	<b>Parity</b>	2.1 (1.1)	1.5 (1.4)		NS
	<b>Type of delivery</b>	<b>Vaginal delivery</b>	0 (0)	2 (8)	NS
		<b>C-section</b>	22 (100)	22 (92)	
	<b>IUGR</b>	0 (0)	24 (100)		<b>&lt;0.001</b>
Newborn data	<b>Gestational age</b>	39.0 (0.7)	31.3 (3.4)		<b>&lt;0.001</b>
	<b>Gender</b>	<b>Boy</b>	11 (50)	10 (45)	NS
		<b>Girl</b>	11 (50)	14 (55)	
	<b>Birth weight (z-score)</b>	-0.1 (0.8)	-1.8 (0.7)		<b>&lt;0.001</b>
	<b>Birth weight (g)</b>	3144.1 (392.0)	1155.0 (615.7)		<b>&lt;0.001</b>
	<b>Birth size (z-score)</b>	-0.5 (0.9)	-2.2 (1.1)		<b>&lt;0.001</b>
	<b>Birth size (cm)</b>	48.9 (2.2)	36.7 (5.2)		<b>&lt;0.001</b>
	<b>Birth head circumference (z-score)</b>	-0.1 (0.9)	-1.2 (1.0)		<b>&lt;0.001</b>
	<b>Birth head circumference (cm)</b>	34.5 (1.5)	27.1 (3.5)		<b>&lt;0.001</b>
	<b>APGAR</b>	10 (0)	9.2 (1.2)		<b>0.003</b>
	<b>Resuscitation at birth</b>	0 (0)	17 (85)		<b>&lt;0.001</b>
	<b>Hospitalization</b>	0 (0)	22 (92)		<b>&lt;0.001</b>

**Supplementary Table S3.** Description of the cord blood cohort ( $n = 30$ ) and comparison of characteristics of the IUGR and control groups. Quantitative data are expressed as an average and quartiles as the standard deviation. Qualitative data are expressed in numbers and percentages N (%). Significantly different data are presented in bold ( $p < 0.05$ ). BMI = body mass index, IUGR = intrauterine growth restriction.

		Control Group n = 15	IUGR Group n = 15	p	
Maternal data	<b>Age (years)</b>	33.1 (4.2)	26.9 (5.4)	<b>0.002</b>	
	<b>BMI</b>	25.7 (7.7)	25.5 (4.7)	NS	
	<b>Tobacco during pregnancy</b>	0 (0)	4 (27)	0.09	
Obstetric data	<b>Gestity</b>	3.1 (2.1)	2.8 (2.3)	NS	
	<b>Parity</b>	2.1 (1.0)	1.5 (1.1)	NS	
	<b>Type of delivery</b>	<b>Vaginal delivery</b> C-section	0 (0) 15 (100)	4 (27) 11 (73)	0.07
New-born data	<b>IUGR</b>	0 (0)	15 (100)	<b>&lt;0.001</b>	
	<b>Gestational age</b>	39.1 (0.7)	35.2 (2.8)	<b>&lt;0.001</b>	
	<b>Gender</b>	<b>Boy</b> <b>Girl</b>	5 (33) 10 (67)	7 (47) 8 (53)	NS
	<b>Birth weight (Zscore)</b>	0.0 (0.8)	-1.8 (0.7)	<b>&lt;0.001</b>	
	<b>Birth weight (g)</b>	3400.0 (444.5)	1760.5 (560.6)	<b>&lt;0.001</b>	
	<b>Birth size (Zscore)</b>	-0.4 (1.2)	-2.1 (0.8)	<b>&lt;0.001</b>	
	<b>Birth size (cm)</b>	49.4 (2.8)	41.3 (3.3)	<b>&lt;0.001</b>	
	<b>Birth head circumference (Zscore)</b>	-0.3 (1.1)	-1.3 (0.7)	<b>0.01</b>	
	<b>Birth head circumference (cm)</b>	34.0 (1.9)	30.0 (2.6)	<b>&lt;0.001</b>	
	<b>APGAR</b>	9.9 (0.3)	9.8 (0.8)	NS	
	<b>Resuscitation at birth</b>	0 (0)	2 (13)	NS	
	<b>Hospitalization</b>	0 (0)	12 (80)	<b>&lt;0.001</b>	