

Supplemental Materials:

Placental Mitochondrial DNA Content and Particulate Air Pollution During *in Utero* Life

Bram G. Janssen¹, Elke Munters¹, Nicky Pieters¹, Karen Smeets¹, Bianca Cox¹, Ann Cuypers¹, Frans Fierens², Joris Penders³, Jaco Vangronsveld¹, Wilfried Gyselaers⁴, Tim S. Nawrot^{1,5}

¹ Centre for Environmental Sciences, Hasselt University, Diepenbeek, Belgium

² Belgian interregional Environment Agency, Brussels, Belgium

³ Biomedical Research Institute, Hasselt University, Diepenbeek, Belgium

⁴ Department of Obstetrics, East-Limburg Hospital, Genk, Belgium

⁵ Department of Public Health, Occupational and Environmental Medicine, Leuven University (KULeuven), Leuven, Belgium

Table of Contents:

Supplemental Materials, Table 1	pg. 2
Supplemental Materials, Table 2	pg. 3

Supplemental Materials, Table 1. Exposure characteristics of nitrogen dioxide.

Pollution indicator	Mean ^a	SD	25 th percentile	75 th percentile
Nitrogen dioxide (NO ₂), µg/m ³				
Week (Mean Lag 0-7)	22.0	7.8	16.5	26.7
Last month	22.9	7.5	17.5	27.8
Trimester 1	20.1	5.9	16.2	23.6
Trimester 2	21.6	5.9	17.4	25.5
Trimester 3	22.9	7.0	18.4	27.2
Whole pregnancy	21.5	5.0	18.6	24.5

^aNO₂ values are presented as arithmetic mean with standard error and 25th-75th percentile.

Supplemental Materials, Table 2. Estimated change in placental and umbilical cord blood mtDNA content in association with NO₂ during pregnancy or distance from residence to nearest major road.

Variable	Placental tissue (<i>n</i> = 174)			Umbilical cord blood (<i>n</i> = 176)		
	Percentage change	95% CI	<i>p</i> -value	Percentage change	95% CI	<i>p</i> -value
Time window, NO ₂ ^{a, b}						
Trimester 1	14.1%	-2.5 to 33.4%	0.10	6.0%	-6.1 to 20.0%	0.38
Trimester 2	-9.6%	-23.0 to 6.1%	0.22	6.8%	-6.0 to 20.9%	0.30
Trimester 3	-21.8%	-32.1 to -9.8%	0.0009	4.4%	-6.6 to 16.7%	0.44
Last month	-14.4%	-26.5 to -0.3%	0.05	6.2%	-5.5 to 19.3%	0.29
Week (Mean Lag 0-7)	-3.0%	-16.0 to 12.0%	0.68	-2.3%	-12.4 to 9.0%	0.68

^a Effect size was estimated for each 10 µg/m³ increase in NO₂ exposure at mother's residence during the corresponding period.

^b Adjusted for newborn's sex (boy/girl), maternal age (years), parity (continuous), gestational age (weeks), ethnicity (European/non-European), smoking status (never, before, current), season (cold/warm period) and apparent week temperature (°C). Additionally, umbilical cord blood was adjusted for blood cell count (# of white blood cells, % neutrophils and # of platelets).