Supplemental material

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Supplementary Table 1- Comparison of the combined primary outcome and premature birth in women with a severe course of disease vs. women without a severe course of disease within the sample of women with GDM and SARS-CoV-2 infection (CRONOS-cohort)

	n (column %)	Severe course of COVID-19 (n [row %])	No severe course of infection (n [row %])	Crude	Multivariable
Variable				OR [95% CI]	aOR [95% CI]*
Combined primary outcome					
No severe SARS-CoV-2 infection/ COVID-19	370 (93.4%)	50 (13.5%)	320 (86.5%)	Ref	Ref
Severe COVID-19	26 (6.6%)	13 (50%)	13 (50%)	**6.40 [2.81;14.60]**	**7.11 [3.04;16.60]**
Premature birth					
No severe SARS-CoV-2 infection/ COVID-19	378 (93.6%)	36 (9.5%)	342 (90.5%)	Ref	Ref
Severe COVID-19	26 (6.4%)	7 (26.9%)	19 (73.1%)	**3.50 [1.38;8.89]**	**4.42 [1.64;11.90]**
Data are presented as number/total number (percentage) and OR/aOR (95% CI) using logistic regression analyses. *adjusted for maternal BMI, maternal age, gestation week of GDM diagnosis, insulin therapy, fasting blood glucose concentration, and week of gestation at the onset of COVID-19 symptoms					

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Supplementary Table 2- Comparison of primary neonatal outcomes, LGA, and insulin therapy in CRONOS between pre-omicron period (wildtype/alpha/delta) vs. omicron period (omicron/omicron BA5)

	n	Pre-omicron period	Omicron period	Crude	Multivariable
Variable				OR [95% CI]	aOR [95% CI]*
Combined primary neonatal outcome	253/141	45 (17.8%)	17 (12.1%)	1.58 [0.87;2.88]	1.63 [0.87;3.03]
Premature birth	259143	27 (10.4%)	15 (10.5%)	0.99 [0.51;1.94]	0.89 [0.44;1.81]
LGA	223/138	37 (16.6%)	11 (8.0%)	**2.30 [1.13;4.67]**	**2.79 [1.33;5.84]**
Insulin therapy	259/143	91 (35.1%)	55 (38.5%)	0.87 [0.57;1.32]	0.88 [0.56;1.38]

Data are presented as number/total number (percentage) and OR/aOR (95%CI) using logistic regression analyses.

*adjusted for maternal BMI, maternal age, gestation week of GDM diagnosis, insulin therapy, fasting blood glucose concentration, and week of gestation at the onset of COVID-19 symptoms

LGA, large for gestational age

Supplementary Table 3- Comparison of secondary outcomes between women with GDM with (CRONOS) and without (GestDiab) SARS-CoV-2 infection

	Crude	Multivariable
Variable	OR [95% CI]	aOR [95% CI]*
LGA	1.08 [0.79;1.48]	1.15 [0.83;1.58]
SGA	0.97 [0.65;1.45]	1.02 [0.68;1.53]
Caesarean delivery	**1.34 [1.09;1.65]**	**1.33 [1.08;1.64]**
Insulin therapy (maternal)	1.20 [0.97;1.48]	1.19 [0.96;1.48]
Birth weight ≥ 4500g	1.28 [0.61;2.68]	1.17 [0.56;2.45]

Data are presented as OR/aOR (95% CI) using logistic regression analyses for the five secondary outcomes: LGA, SGA, caesarean delivery, insulin therapy, birth weight ≥4500g (yes or no) as the dependent variable (separate model for each).

*adjusted for maternal BMI, maternal age, gestation week of GDM diagnosis, insulin therapy, and fasting blood glucose concentration

SGA, small for gestational age, LGA, large for gestational age

Supplementary Table 4- Associations (interactions) between OGTT results and preterm birth between women with GDM with (CRONOS) and without (GestDiab) SARS-CoV-2 infection

	Variable	Cohort with SARS-CoV-2		Cohort without SARS-CoV-2		P of interaction
		aOR [95% CI]*	P	aOR [95% CI]*	P	
Preterm birth	Fasting venous plasma glucose concentration [mmol/L]*	1.05 [1.01;1.09]	**0.019**	1.00 [0.99;1.01]	0.383	**0.007**
	Venous plasma glucose concentration after 1 hr [mmol/L]**	1.01 [1.00;1.02]	0.079	1.00 [1.00;1.01]	0.076	0.358
	Venous plasma glucose concentration after 2 hrs [mmol/L]**	1.01 [1.00;1.02]	0.238 0.199	1.01 [1.00;1.01]	**0.008**	0.984

Data are presented as aOR (95% CI) using logistic regression.

*adjusted for maternal BMI, maternal age, week of gestation of gestational diabetes mellitus diagnosis, and insulin therapy

**adjusted for maternal BMI, maternal age, week of gestation of gestational diabetes mellitus diagnosis, insulin therapy, and fasting blood glucose concentration

OGTT, oral glucose tolerance test

Due to no statistically significant interaction between plasma glucose concentrations and the combined neonatal outcome, no analysis was conducted for this outcome.

Supplementary Table 5- Associations between OGTT results and adverse neonatal outcomes in women with GDM and SARS-CoV-2 infection, adjusted for COVID-19 related confounders

		Crude		Multivariable	
	Variable	OR [95% CI]	P	aOR [95% CI]*	P
Combined neonatal outcome	Fasting venous plasma glucose concentration [mmol/L]	1.03 [1.00;1.07]	**0.039**	1.04 [1.00;1.07]	**0.041**
	Venous plasma glucose concentration after 1 hr during OGTT [mmol/L]	1.00 [0.99;1.01]	0.520	1.00 [0.99;1.01]	0.575
	Venous plasma glucose concentration after 2 hrs during OGTT [mmol/L]	1.01 [0.99;1.02]	0.266	1.01 [1.00;1.02]	0.168
Premature birth	Fasting venous plasma glucose concentration [mmol/L]	1.06 [1.02;1.10]	**0.008**	1.05 [1.01;1.09]	**0.023**
	Venous plasma glucose concentration after 1 hr during OGTT [mmol/L]	1.01 [1.00;1.02]	0.135	1.01 [0.99;1.02]	0.118
	Venous plasma glucose concentration after 2 hrs during OGTT [mmol/L]	1.00 [0.99;1.02]	0.370	1.01 [0.99;1.02]	0.145
Data are presented as OR/aOR (95% CI) using logistic regression. *adjusted for COVID-diagnosis after gestational diabetes mellitus diagnosis, variant type, vaccination status. OGTT, oral glucose tolerance test					

Supplementary Table 6- Comparison of the final analytical sample of women with GDM and SARS-CoV-2 infection (CRONOS) and those who were excluded due to missing data

Characteristics	n	Excluded cases based on missing data	Final cohort	P
Maternal age	83/409	32 [29;36]	32 [28;36]	0.888
BMI	78/409	28.2 [23.9;32.7]	28.0 [24.2;33.1]	0.964
Vaccinated	79/383	24 (30.4%)	82 (21.4%)	0.084
Week of gestation of gestational diabetes mellitus diagnosis	120/409	25 [22;27]	26 [24;28]	**0.005**
Obesity	78/409	31 (39.7%)	159 (38.9%)	0.885
Insulin therapy	84/409	46 (54.8%)	148 (36.2%)	**0.002**
Data are presented as median [IQR] and as number/total number (percentage). BMI, body mass index				

Supplementary Table 7- Comparison of the final analytical sample of women with GDM and without SARS-CoV-2 infection (GestDiab) and those who were excluded due to missing data

Characteristics	n	Excluded cases based on missing data	Final cohort	P
Maternal age		32.0 [28.0;36.0]	33.0 [29.0;36.0]	**0.0001**
BMI		27.4 [23.7;32.1]	27.0 [23.3;32.0]	0.073
Week of gestation of gestational diabetes mellitus diagnosis	2788/4598	26.0 [25.0;28.0]	26.0 [25.0;28.0]	0.071
Obesity		976 (35.0%)	1553 (33.8%)	0.280
Insulin therapy		685 (24.6%)	1474 (32.1%)	**0.0001**
Data are presented as median [IQR] and as number/total number (percentage). BMI, body mass index				