

Supplementary table 1. Characteristics and pregnancy outcomes based on the presence or absence of congenital malformations

Characteristics	Congenital	Congenital	P-value
	malformation (-) (N = 2,885,724)	malformation (+) (N = 393,480)	
Age (years)	30.85 ± 3.88	31.03 ± 3.78	<0.0001
Nulliparity	1,503,036 (52.08)	226,266 (57.50)	<0.0001
Comorbidity before pregnancy			
Hypertension	91768 (3.18)	15290 (3.85)	<0.0001
Diabetes	134818 (4.67)	22773 (5.78)	<0.0001
Pregnancy outcomes			
Gestational diabetes	115026 (3.98)	21481 (5.45)	<0.0001
Preeclampsia	50008 (1.73)	10986 (2.79)	<0.0001
Preterm birth	60011 (2.07)	25352 (6.44)	<0.0001
Cesarean section	1029800 (35.68)	153916 (39.11)	<0.0001
Placental abruption	9291 (0.32)	2309 (0.58)	<0.0001
Placenta Previa	29786 (1.03)	5940 (1.50)	<0.0001
Neonatal outcomes			
Neonatal sex, male	1466214 (50.80)	223442 (56.78)	<0.0001
Mean birth weight (kilogram)	3.22 ± 0.44	3.14 ± 0.55	<0.0001
Low birth weight	86168 (2.98)	29894 (7.59)	<0.0001
Large for gestational age	110157 (3.81)	14546 (3.69)	0.0002

Data are presented as number (%) or mean ± SD

Supplementary table 2. Analysis of specific organ malformations

	Non-maternal SLE (n = 3,275,251)	Maternal SLE (n = 3,953)	unadjusted OR (95% CI)	adjusted OR§ (95% CI)
Total congenital malformation	392803 (11.99)	677 (17.13)	1.51 (1.39–1.64)	1.40 (1.28–1.52)
Q00-07 (Congenital malformations of the nervous system)	7148 (0.22)	18 (0.46)	2.09 (1.31–3.33)	1.90 (1.20–3.03)
Q00 (Anencephaly and similar malformations)	3 (0.00)	0 (0.00)	-	-
Q01 (Encephalocele)	137 (0.00)	0 (0.00)	-	-
Q02 (Microcephaly)	888 (0.03)	2 (0.05)	1.87 (0.47–7.48)	1.65 (0.41–6.60)
Q03 (Congenital hydrocephalus)	682 (0.02)	3 (0.08)	3.63 (1.16–11.35)	3.18 (1.01–10.05)
Q04 (Other congenital malformations of the brain)	1796 (0.05)	6 (0.15)	2.77 (1.24–6.18)	2.53 (1.13–5.66)
Q05 (Spina bifida)	2150 (0.07)	6 (0.15)	2.31 (1.04–5.17)	2.18 (0.97–4.87)
Q06 (Other congenital malformations of the spinal cord)	1121 (0.03)	1 (0.03)	0.74 (0.10–5.25)	0.65 (0.09–4.62)
Q07 (Other congenital malformations of the nervous system)	371 (0.01)	0 (0.00)	-	-
Q10-Q18 (Congenital malformations of the eye, ear, face, and neck)	44623 (1.30)	78 (1.97)	1.45 (1.16–1.82)	1.37 (1.09–1.71)
Q10 (Congenital malformations of the eyelid, lacrimal apparatus, and orbit)	32760 (1.00)	57 (1.44)	1.45 (1.11–1.88)	1.35 (1.04–1.76)
Q11 (Anophthalmos, microphthalmos, and macrophthalmos)	98 (0.00)	0 (0.00)	-	-
Q12 (Congenital lens malformations)	523 (0.02)	0 (0.00)	-	-
Q13 (Congenital malformations of the anterior segment of the eye)	436 (0.01)	0 (0.00)	-	-
Q14 (Congenital malformations of the posterior segment of the eye)	258 (0.01)	1 (0.03)	3.24 (0.46–22.92)	3.04 (0.43–21.73)
Q15 (Other congenital malformations of the eye)	345 (0.01)	0 (0.00)	-	-
Q16 (Congenital malformations of the ear causing impairment of hearing)	1038 (0.03)	4 (0.10)	3.20 (1.20–8.53)	3.01 (1.13–8.09)
Q17 (Other congenital malformations of the ear)	4625 (0.14)	9 (0.23)	1.61 (0.84–3.11)	1.47 (0.76–2.83)
Q18 (Other congenital malformations of the face and neck)	4540 (0.14)	7 (0.18)	1.28 (0.61–2.68)	1.28 (0.61–2.69)
Q20-Q28 (Congenital malformations of the circulatory system)	84968 (2.59)	216 (5.46)	2.17 (1.89–2.49)	1.92 (1.67–2.20)
Q20 (Congenital malformations of the cardiac chambers and connections)	647 (0.02)	1 (0.03)	1.28 (0.18–9.11)	1.23 (0.18–8.68)
Q21 (Congenital malformations of the cardiac septa)	54917 (1.68)	149 (3.77)	2.30 (1.95–2.70)	2.05 (1.74–2.41)
Q22 (Congenital malformations of pulmonary and tricuspid valves)	2133 (0.07)	4 (0.10)	1.56 (0.59–4.16)	1.45 (0.54–3.88)
Q23 (Congenital malformations of the aortic and mitral valves)	506 (0.02)	1 (0.03)	1.64 (0.23–11.65)	1.44 (0.20–10.17)
Q24 (Other congenital malformations of the heart)	7524 (0.23)	11 (0.28)	1.21 (0.67–2.19)	1.17 (0.64–2.11)
Q25 (Congenital malformations of the great arteries)	16651 (0.51)	45 (1.14)	2.25 (1.69–3.02)	1.84 (1.37–2.48)
Q26 (Congenital malformations of great veins)	280 (0.01)	1 (0.03)	2.96 (0.42–21.09)	3.26 (0.46–23.06)

Q27 (Other congenital malformations of the peripheral vascular system)	2064 (0.06)	4 (0.10)	1.61 (0.60–4.29)	1.43 (0.54–3.82)
Q28 (Other congenital malformations of the circulatory system)	246 (0.01)	0 (0.00)	-	-
Q30-Q34 (Congenital malformations of the respiratory system)	8785 (0.27)	11 (0.28%)	1.04 (0.57–1.88)	1.02 (0.57–1.85)
Q30 (Congenital malformations of the nose)	172 (0.01)	1 (0.03%)	4.82 (0.68–34.41)	4.80 (0.66–34.98)
Q31 (Congenital malformations of the larynx)	6608 (0.20)	6 (0.15%)	0.75 (0.34–1.68)	0.75 (0.34–1.67)
Q32 (Congenital malformations of the trachea and bronchus)	800 (0.02)	2 (0.05%)	2.08 (0.52–8.31)	2.11 (0.53–8.51)
Q33 (Congenital malformations of the lung)	1124 (0.03)	2 (0.05%)	1.47 (0.37–5.89)	1.35 (0.34–5.42)
Q34 (Other congenital malformations of the respiratory system)	81 (0.00%)	0 (0%)	-	-
Q35-Q37 (Cleft lip and cleft palate)	3840 (0.12)	6 (0.15)	1.29 (0.58–2.88)	1.19 (0.53–2.67)
Q35 (Congenital malformations of cardiac chambers and connections)	2174 (0.07)	3 (0.08)	1.12 (0.36–3.52)	1.07 (0.34–3.36)
Q36 (Congenital malformations of cardiac septa)	1173 (0.04)	3 (0.08)	2.13 (0.69–6.60)	1.93 (0.62–6.00)
Q37 (Congenital malformations of pulmonary and tricuspid valves)	493 (0.02)	0 (0.00)	-	-
Q38-Q45 (Other congenital malformations of the digestive system)	116272 (3.55)	155 (3.92)	1.12 (0.96–1.32)	1.08 (0.92–1.26)
Q38 (Other congenital malformations of the tongue, mouth, and pharynx)	103441 (3.16)	137 (3.47)	1.12 (0.94–1.33)	1.07 (0.90–1.27)
Q39 (Congenital malformations of the esophagus)	402 (0.01)	0 (0.00)	-	-
Q40 (Other congenital malformations of the upper alimentary tract)	6077 (0.19)	8 (0.20)	1.09 (0.55–2.18)	1.04 (0.52–2.08)
Q41 (Congenital absence, atresia, and stenosis of the small intestine)	688 (0.02)	2 (0.05)	2.41 (0.60–9.66)	2.34 (0.58–9.41)
Q42 (Congenital absence, atresia, and stenosis of the large intestine)	978 (0.03)	2 (0.05)	1.70 (0.43–6.79)	1.62 (0.41–6.47)
Q43 (Other congenital malformations of the intestine)	3675 (0.11)	5 (0.13)	1.13 (0.47–2.71)	1.10 (0.45–2.64)
Q44 (Congenital malformations of the gallbladder, bile ducts, and liver)	889 (0.03)	1 (0.03)	0.93 (0.13–6.63)	0.95 (0.13–6.78)
Q45 (Other congenital malformations of digestive system)	122 (0.00)	0 (0.00)	-	-
Q50-Q56 (Congenital malformations of the genital organs)	24572 (0.75)	30 (0.76)	1.01 (0.71–1.45)	0.95 (0.66–1.36)
Q50 (Congenital malformations of the ovaries, fallopian tubes, and broad ligaments)	156 (0.00)	0 (0.00)	-	-
Q51 (Congenital malformations of the uterus and cervix)	25 (0.00)	0 (0.00)	-	-
Q52 (Other congenital malformations of female genitalia)	4820 (0.15)	4 (0.10)	0.69 (0.26–1.84)	0.65 (0.25–1.75)
Q53 (Undescended and ectopic testicle)	12764 (0.39)	17 (0.43)	1.11 (0.68–1.77)	1.05 (0.65–1.69)
Q54 (Hypospadias)	1533 (0.05)	1 (0.03)	0.54 (0.08–3.83)	0.46 (0.07–3.44)
Q55 (Other congenital malformations of the male genital organs)	5034 (0.15)	7 (0.18)	1.15 (0.55–2.42)	1.06 (0.50–2.22)
Q56 (Indeterminate sex and pseudohermaphroditism)	240 (0.01)	1 (0.03)	3.47 (0.49–24.61)	2.99 (0.42–21.54)
Q60-Q64 (Congenital malformations of the urinary system)	18315 (0.56)	28 (0.71)	1.27 (0.88–1.84)	1.19 (0.82–1.73)
Q60 (Renal agenesis and other reduction defects of the kidney)	785 (0.02)	0 (0.00)	-	-
Q61 (Cystic kidney disease)	1533 (0.05)	1 (0.03)	0.54 (0.08–3.84)	0.52 (0.07–3.65)
Q62 (Congenital obstructive defects of the renal pelvis and congenital malformations of the ureter)	13883 (0.42)	24 (0.61)	1.43 (0.96–2.14)	1.36 (0.91–2.04)

Q63 (Other congenital malformations of the kidney)	1348 (0.04)	3 (0.08)	1.84 (0.59–5.74)	1.59 (0.51–4.94)
Q64 (Other congenital malformations of the urinary system)	766 (0.02)	0 (0.00)	-	-
Q65-Q79 (Congenital malformations and deformations of the musculoskeletal system)	72337 (2.21)	117 (2.96)	1.35 (1.12–1.62)	1.26 (1.05–1.52)
Q65 (Congenital deformities of the hip)	21148 (0.65)	34 (0.86)	1.33 (0.95–1.87)	1.26 (0.90–1.77)
Q66 (Congenital deformities of the feet)	8445 (0.26)	14 (0.35)	1.37 (0.81–2.33)	1.27 (0.75–2.14)
Q67 (Congenital musculoskeletal deformities of the head, face, spine, and chest)	7556 (0.23)	10 (0.25)	1.10 (0.59–2.04)	0.99 (0.54–1.86)
Q68 (Other congenital musculoskeletal deformities)	13535 (0.41)	26 (0.66)	1.60 (1.08–2.34)	1.48 (1.01–2.19)
Q69 (Polydactyly)	3986 (0.12)	10 (0.25)	2.08 (1.12–3.87)	1.97 (1.06–3.67)
Q70 (Syndactyly)	2262 (0.07)	3 (0.08)	1.09 (0.36–3.42)	1.09 (0.35–3.42)
Q71 (Reduction defects of the upper limb)	132 (0.00)	0 (0.00)	-	-
Q72 (Reduction defects of the lower limb)	452 (0.01)	0 (0.00)	-	-
Q73 (Reduction defects of the unspecified limb)	24(0%)	0(0%)	-	-
Q74 (Other congenital malformations of limb(s))	3972 (0.12)	7 (0.18)	1.46 (0.69–3.06)	1.41 (0.67–2.97)
Q75 (Other congenital malformations of the skull and face bones)	5606 (0.17)	8 (0.20)	1.18 (0.59–2.37)	1.07 (0.53–2.15)
Q76 (Congenital malformations of the spine and bony thorax)	2512 (0.08)	3 (0.08)	0.99 (0.32–3.07)	0.92 (0.29–2.84)
Q77 (Osteochondrodysplasia with defects in growth of tubular bones and the spine)	235 (0.01)	0 (0.00)	-	-
Q78 (Other osteochondrodysplasias)	225 (0.01)	0 (0.00)	-	-
Q79 (Congenital malformations of the musculoskeletal system, not elsewhere classified)	2247 (0.07)	2 (0.05)	0.74 (0.19–2.95)	0.71 (0.18–2.85)
Q80-Q89 (Other congenital malformations)	11943 (0.36)	18 (0.46)	1.25 (0.79–1.98)	1.18 (0.74–1.87)
Q80 (Congenital ichthyosis)	258 (0.01)	1 (0.03)	3.22 (0.45–22.89)	3.34 (0.46–24.30)
Q81 (Epidermolysis bullosa)	292 (0.01)	0 (0.00)	-	-
Q82 (Other congenital malformations of the skin)	7545 (0.23)	13 (0.33)	1.43 (0.83–2.46)	1.34 (0.78–2.32)
Q83 (Congenital malformations of the breast)	291 (0.01)	0 (0.00)	-	-
Q84 (Other congenital malformations of the integument)	557 (0.02)	1 (0.03)	1.49 (0.21–10.58)	1.35 (0.19–9.67)
Q85 (Phakomatoses, not elsewhere classified)	1400 (0.04)	3 (0.08)	1.76 (0.56–5.51)	1.69 (0.54–5.28)
Q86 (Congenital malformation syndromes due to known exogenous causes, not elsewhere classified)	15 (0.00)	0 (0.00)	-	-
Q87 (Other specified congenital malformation syndromes affecting multiple systems)	367 (0.01)	0 (0.00)	-	-
Q89 (Other congenital malformations, not elsewhere classified)	1218 (0.04)	0 (0.00)	-	-

§ adjusted for age, parity, hypertension, diabetes, and neonatal sex.

Abbreviations: CI, Confidence interval; OR, odds ratio; SLE, Systemic lupus erythematosus

Supplementary table 3. Characteristics and pregnancy outcomes after propensity score matching

Characteristics	Non-maternal SLE (N = 19,765)	Maternal SLE (N = 3,953)	P-value
Age (year)s	31.83 ± 3.70	31.82 ± 3.71	0.9606
Nulliparity	11145 (56.39)	2229 (56.39)	1
Comorbidity before pregnancy			
Hypertension	3725 (18.85)	745 (18.85)	1
Diabetes	2880 (14.57)	577 (14.59)	0.9672
Pregnancy outcomes			
Gestational diabetes	1166 (5.89)	193 (4.88)	0.0120
Preeclampsia	547 (2.77)	139 (3.52)	0.0103
Preterm birth	585 (2.96)	268 (6.78)	<.0001
Cesarean section	7908 (40.01)	1691 (42.78)	0.0012
Placental abruption	70 (0.35)	28 (0.71)	0.0115
Placenta Previa	249 (1.26)	80 (2.02)	0.0002
Neonatal outcomes			
Neonatal sex, male	10259 (51.90)	2076 (52.52)	0.4819
Mean birth weight	3.21 ± 0.47	3.06 ± 0.55	<.0001
Low birth weight	796 (4.03)	396 (10.02)	<.0001
Large for gestational age	811 (4.10)	89 (2.25)	<.0001

Data are presented as number (%) or mean ± SD

The control group was selected after matching for age, parity, hypertension, diabetes before pregnancy and year of delivery

Abbreviations: SLE, Systemic lupus erythematosus

Supplementary table 4. Analysis of specific organ malformations after propensity score matching

	Non-maternal SLE (n = 19,765)	Maternal SLE (n = 3,953)	unadjusted OR (95% CI)	adjusted OR§ (95% CI)
Total congenital malformation	2799 (14.16)	677 (17.13)	1.25 (1.14-1.37)	1.25 (1.14-1.37)
Q00-07 (Congenital malformations of the nervous system)	53 (0.27)	18 (0.46)	1.70 (0.99-2.91)	1.71 (0.99-2.91)
Q00 (Anencephaly and similar malformations)	0 (0.00)	0 (0.00)	-	-
Q01 (Encephalocele)	0 (0.00)	0 (0.00)	-	-
Q02 (Microcephaly)	8 (0.04)	2 (0.05)	1.25 (0.27-5.89)	1.26 (0.27-5.94)
Q03 (Congenital hydrocephalus)	2 (0.01)	3 (0.08)	7.51 (1.25-44.93)	7.46 (1.25-44.69)
Q04 (Other congenital malformations of the brain)	10 (0.05)	6 (0.15)	3.00 (1.09-8.27)	3.00 (1.09-8.26)
Q05 (Spina bifida)	17 (0.09)	6 (0.15)	1.77 (0.70-4.48)	1.78 (0.70-4.51)
Q06 (Other congenital malformations of the spinal cord)	15 (0.08)	1 (0.03)	0.33 (0.04-2.52)	0.33 (0.04-2.52)
Q07 (Other congenital malformations of the nervous system)	1 (0.01)	0 (0.00)	-	-
Q10-Q18 (Congenital malformations of the eye, ear, face, and neck)	284 (1.44)	78 (1.97)	1.38 (1.07-1.78)	1.38 (1.07-1.78)
Q10 (Congenital malformations of the eyelid, lacrimal apparatus, and orbit)	211 (1.07)	57 (1.44)	1.36 (1.01-1.82)	1.36 (1.01-1.82)
Q11 (Anophthalmos, microphthalmos, and macrophthalmos)	0 (0.00)	0 (0.00)	-	-
Q12 (Congenital lens malformations)	3 (0.02)	0 (0.00)	-	-
Q13 (Congenital malformations of the anterior segment of the eye)	3 (0.02)	0 (0.00)	-	-
Q14 (Congenital malformations of the posterior segment of the eye)	1 (0.01)	1 (0.03)	5.00 (0.31-79.97)	5.08 (0.32-81.79)
Q15 (Other congenital malformations of the eye)	3 (0.02)	0 (0.00)	-	-
Q16 (Congenital malformations of the ear causing impairment of hearing)	4 (0.02)	4 (0.10)	5.00 (1.25-20.02)	5.00 (1.25-20.02)
Q17 (Other congenital malformations of the ear)	32 (0.16)	9 (0.23)	1.41 (0.67-2.95)	1.40 (0.67-2.94)
Q18 (Other congenital malformations of the face and neck)	27 (0.14)	7 (0.18)	1.30 (0.56-2.98)	1.30 (0.56-2.99)
Q20-Q28 (Congenital malformations of the circulatory system)	644 (3.26)	216 (5.46)	1.72 (1.47-2.01)	1.72 (1.47-2.02)
Q20 (Congenital malformations of cardiac chambers and connections)	6 (0.03)	1 (0.03)	0.83 (0.10-6.92)	0.84 (0.10-7.02)
Q21 (Congenital malformations of the cardiac septa)	391 (1.98)	149 (3.77)	1.94 (1.60-2.35)	1.94 (1.61-2.36)
Q22 (Congenital malformations of pulmonary and tricuspid valves)	16 (0.08)	4 (0.10)	1.25 (0.42-3.74)	1.25 (0.42-3.73)
Q23 (Congenital malformations of the aortic and mitral valves)	0 (0.00)	1 (0.03)	-	-
Q24 (Other congenital malformations of the heart)	63 (0.32)	11 (0.28)	0.87 (0.46-1.66)	0.87 (0.46-1.66)
Q25 (Congenital malformations of the great arteries)	145 (0.73)	45 (1.14)	1.56 (1.11-2.18)	1.56 (1.12-2.19)
Q26 (Congenital malformations of great veins)	1 (0.01)	1 (0.03)	5.00 (0.31-79.97)	5.01 (0.31-80.15)
Q27 (Other congenital malformations of the peripheral vascular system)	21 (0.11)	4 (0.10)	0.95 (0.33-2.78)	0.95 (0.33-2.78)
Q28 (Other congenital malformations of the circulatory system)	1 (0.01)	0 (0.00)	-	-

Q30-Q34 (Congenital malformations of the respiratory system)	50 (0.25)	11 (0.28)	1.10 (0.57-2.12)	1.10 (0.57-2.11)
Q30 (Congenital malformations of the nose)	0 (0.00)	1 (0.03)	-	-
Q31 (Congenital malformations of the larynx)	36 (0.18)	6 (0.15)	0.83 (0.35-1.98)	0.83 (0.35-1.97)
Q32 (Congenital malformations of the trachea and bronchus)	5 (0.03)	2 (0.05)	2.00 (0.39-10.32)	1.99 (0.39-10.24)
Q33 (Congenital malformations of the lung)	8 (0.04)	2 (0.05)	1.25 (0.27-5.89)	1.25 (0.27-5.98)
Q34 (Other congenital malformations of respiratory system)	1 (0.01)	0 (0.00)	-	-
Q35-Q37 (Cleft lip and cleft palate)	31 (0.16)	6 (0.15)	0.97 (0.40-2.32)	0.97 (0.40-2.32)
Q35 (Congenital malformations of cardiac chambers and connections)	23 (0.12)	3 (0.08)	0.65 (0.20-2.17)	0.65 (0.20-2.18)
Q36 (Congenital malformations of the cardiac septa)	7 (0.04)	3 (0.08)	2.14 (0.55-8.30)	2.13 (0.55-8.26)
Q37 (Congenital malformations of pulmonary and tricuspid valves)	1 (0.01)	0 (0.00)	-	-
Q38-Q45 (Other congenital malformations of the digestive system)	856 (4.33)	155 (3.92)	0.90 (0.76-1.07)	0.90 (0.75-1.07)
Q38 (Other congenital malformations of the tongue, mouth, and pharynx)	790 (4.00)	137 (3.47)	0.86 (0.72-1.04)	0.86 (0.71-1.03)
Q39 (Congenital malformations of the esophagus)	4 (0.02)	0 (0.00)	-	-
Q40 (Other congenital malformations of the upper alimentary tract)	29 (0.15)	8 (0.20)	1.38 (0.63-3.02)	1.37 (0.63-3.01)
Q41 (Congenital absence, atresia and stenosis, of the small intestine)	2 (0.01)	2 (0.05)	5.00 (0.70-35.52)	5.16 (0.73-36.66)
Q42 (Congenital absence, atresia, and stenosis of the large intestine)	12 (0.06)	2 (0.05)	0.83 (0.19-3.73)	0.84 (0.19-3.73)
Q43 (Other congenital malformations of the intestine)	18 (0.09)	5 (0.13)	1.39 (0.52-3.74)	1.39 (0.52-3.75)
Q44 (Congenital malformations of the gallbladder, bile ducts, and liver)	1 (0.01)	1 (0.03)	5.00 (0.31-79.97)	5.01 (0.31-80.08)
Q45 (Other congenital malformations of the digestive system)	0 (0.00)	0 (0.00)	-	-
Q50-Q56 (Congenital malformations of the genital organs)	160 (0.81)	30 (0.76)	0.94 (0.63-1.39)	0.93 (0.63-1.38)
Q50 (Congenital malformations of the ovaries, fallopian tubes, and broad ligaments)	0 (0.00)	0 (0.00)	-	-
Q51 (Congenital malformations of the uterus and cervix)	0 (0.00)	0 (0.00)	-	-
Q52 (Other congenital malformations of female genitalia)	35 (0.18)	4 (0.10)	0.57 (0.20-1.61)	0.58 (0.21-1.63)
Q53 (Undescended and ectopic testicle)	79 (0.40)	17 (0.43)	1.08 (0.64-1.82)	1.06 (0.63-1.79)
Q54 (Hypospadias)	7 (0.04)	1 (0.03)	0.72 (0.09-5.81)	0.70 (0.09-5.71)
Q55 (Other congenital malformations of the male genital organs)	38 (0.19)	7 (0.18)	0.92 (0.41-2.06)	0.99 (0.41-2.04)
Q56 (Indeterminate sex and pseudohermaphroditism)	1 (0.01)	1 (0.03)	5.00 (0.31-79.97)	4.97 (0.31-79.42)
Q60-Q64 (Congenital malformations of the urinary system)	130 (0.66)	28 (0.71)	1.08 (0.72-1.62)	1.07 (0.71-1.62)
Q60 (Renal agenesis and other reduction defects of the kidney)	5 (0.03)	0 (0.00)	-	-
Q61 (Cystic kidney disease)	10 (0.05)	1 (0.03)	0.50 (0.06-3.91)	0.50 (0.06-3.93)
Q62 (Congenital obstructive defects of the renal pelvis and congenital malformations of the ureter)	96 (0.49)	24 (0.61)	1.25 (0.80-1.96)	1.24 (0.79-1.95)
Q63 (Other congenital malformations of the kidney)	12 (0.06)	3 (0.08)	1.25 (0.35-4.43)	1.25 (0.35-4.42)
Q64 (Other congenital malformations of the urinary system)	7 (0.04)	0 (0.00)	-	-

Q65-Q79 (Congenital malformations and deformations of the musculoskeletal system)	504 (2.55)	117 (2.96)	1.17 (0.95-1.43)	1.17 (0.95-1.43)
Q65 (Congenital deformities of the hip)	161 (0.81)	34 (0.86)	1.06 (0.73-1.53)	1.06 (0.73-1.54)
Q66 (Congenital deformities of the feet)	47 (0.24)	14 (0.35)	1.49 (0.82-2.71)	1.49 (0.82-2.71)
Q67 (Congenital musculoskeletal deformities of the head, face, spine, and chest)	61 (0.31)	10 (0.25)	0.82 (0.42-1.60)	0.82 (0.42-1.60)
Q68 (Other congenital musculoskeletal deformities)	90 (0.46)	26 (0.66)	1.45 (0.93-2.24)	1.45 (0.93-2.24)
Q69 (Polydactyly)	30 (0.15)	10 (0.25)	1.67 (0.82-3.42)	1.66 (0.81-3.39)
Q70 (Syndactyly)	17 (0.09)	3 (0.08)	0.88 (0.26-3.01)	0.88 (0.26-3.00)
Q71 (Reduction defects of the upper limb)	0 (0.00)	0 (0.00)	-	-
Q72 (Reduction defects of the lower limb)	6 (0.03)	0 (0.00)	-	-
Q73 (Reduction defects of the unspecified limb)	0 (0.00)	0 (0.00)	-	-
Q74 (Other congenital malformations of the limb(s))	21 (0.11)	7 (0.18)	1.67 (0.71-3.93)	1.67 (0.71-3.93)
Q75 (Other congenital malformations of the skull and face bones)	37 (0.19)	8 (0.20)	1.08 (0.50-2.32)	1.08 (0.50-2.32)
Q76 (Congenital malformations of the spine and bony thorax)	16 (0.08)	3 (0.08)	0.94 (0.27-3.22)	0.94 (0.27-3.22)
Q77 (Osteochondrodysplasia with defects in growth of the tubular bones and the spine)	0 (0.00)	0 (0.00)	-	-
Q78 (Other osteochondrodysplasias)	1 (0.01)	0 (0.00)	-	-
Q79 (Congenital malformations of the musculoskeletal system, not elsewhere classified)	17 (0.09)	2 (0.05)	0.59 (0.14-2.55)	0.59 (0.14-2.55)
Q80-Q89 (Other congenital malformations)	87 (0.44)	18 (0.46)	1.04 (0.62-1.72)	1.04 (0.62-1.72)
Q80 (Congenital ichthyosis)	2 (0.01)	1 (0.03)	2.50 (0.23-27.58)	2.34 (0.21-26.43)
Q81 (Epidermolysis bullosa)	3 (0.02)	0 (0.00)	-	-
Q82 (Other congenital malformations of the skin)	58 (0.29)	13 (0.33)	1.12 (0.61-2.05)	1.12 (0.61-2.05)
Q83 (Congenital malformations of the breast)	2 (0.01)	0 (0.00)	-	-
Q84 (Other congenital malformations of the integument)	4 (0.02)	1 (0.03)	1.25 (0.14-11.19)	1.27 (0.14-11.36)
Q85 (Phakomatoses, not elsewhere classified)	13 (0.07)	3 (0.08)	1.15 (0.33-4.05)	1.16 (0.33-4.06)
Q86 (Congenital malformation syndromes due to known exogenous causes, not elsewhere classified)	1 (0.01)	0 (0.00)	-	-
Q87 (Other specified congenital malformation syndromes affecting multiple systems)	0 (0.00)	0 (0.00)	-	-
Q89 (Other congenital malformations, not elsewhere classified)	4 (0.02)	0 (0.00)	-	-

The control group was selected after matching for age, parity, hypertension, diabetes before pregnancy and year of delivery

§adjusted for age, parity, hypertension, diabetes, and neonatal sex.

Abbreviations: CI, Confidence interval; OR, odds ratio; SLE, Systemic lupus erythematosus

Supplementary table 5. List of ICD-10 codes for covariates

Hypertension	I10-I15
Diabetes	E10-E14
Gestational diabetes	O24.4 , O24.9
Preeclampsia	O13 - 16
Placental abruption	O45
Placenta Previa	O44
