

Appendix

Table 1. International Statistical Classification of Diseases and Related Health Problems (ICD-10CA), and the Canadian Classification of Interventions (CCI) diagnosis/procedure codes used in the study.

Diagnosis/Procedure code	ICD-10	CCI
Postpartum hemorrhage	O720- O723	
Due to retained placenta	O720	
Atonic postpartum hemorrhage	O721	
Secondary postpartum hemorrhage	O722	
Due to coagulation defects	O723	
Blood transfusion		1LZ19HHU1; 1LZ19HHU9; 1LZ19HMU1; 1LZ19HMU9
Hysterectomy		
Cesarean hysterectomy		5MD60KE; 5MD60RC; 5MD60CB; 5MD60RD
Partial or total excision of uterus and surrounding structures, open approach		1RM87LAGX; 1RM89LA (without 1PL74; 1RS80; 1RS74)
Other procedures to control bleeding		
Suturing of uterus, e.g. b-lynch suture		5PC91LA
Control of postpartum hemorrhage by ligation of pelvic vessels		1KT51
Control of postpartum hemorrhage by embolization of pelvic vessels		1RM13
Acute Renal Failure		
Postpartum acute renal failure	O904	
Post-procedural renal failure	N990	
Acute renal failure	N17	
Unspecified kidney failure	N19	
Dialysis		Z491
Induction of labor		5AC30ALI2; 5AC30CAI2; 5AC30GUI2; 5AC30HAI2; 5AC30YAI2; 5AC30YBI2; 5AC30ZZI2, 5AC30AP, (since 2006) 5AC30
Cesarean delivery	5MD60	
Placenta previa, antepartum hemorrhage	O44, O46	
Hypertensive disorders		
Pre-existing hypertension complicating pregnancy	O10	
Pre-existing hypertensive disorder with superimposed proteinuria	O11	
Gestational hypertension without significant Proteinuria	O13	
Gestational hypertension with significant proteinuria	O14	
Eclampsia	O15	
Unspecified maternal hypertension	O16	
Gestational edema and proteinuria	O12	
Diabetes mellitus	E10, E11, E13, E14, O24	
Sepsis	O753, O85	
Other puerperal infection	O86	
Placental abruption	O45	
Obstetric shock	O751,T805,T886	
Uterine rupture	O710, O711	
Polyhydramnios	O40	
Cardiac failure	O754,O742,O291, I50	
Obesity	E66	
Chronic kidney disease	N18	
Pulmonary edema	J81	

Table 2. Results of logistic regression modeling showing effects of year of delivery and risk factors on obstetric acute renal failure (ARF) among women with gestational hypertension and proteinuria (n=24,851), Canada (excluding Quebec), 2003 to 2010.

		ARF per 10,000 deliveries	Unadjusted odds ratio (95% confidence interval)	Adjusted odds ratio (95% confidence interval) *
Period	2003-2004	45.5	Reference	Reference
	2005-2006	72.1	1.59 (0.98-2.59)	1.71 (1.04-2.79)
	2007-2008	74.7	1.65 (1.02-2.65)	1.81 (1.12-2.94)
	2009-2010	109.6	2.42 (1.55-3.81)	2.71 (1.71-4.29)
Atonic postpartum hemorrhage		145.3	2.07 (1.37-3.11)	2.47 (1.61-3.79)
Non-atonic postpartum hemorrhage		353.4	5.20 (3.24-8.32)	7.14 (4.29-11.87)
Maternal age (in years)				
	<20	35.8	0.65 (0.27-1.60)	0.68 (0.27-1.67)
	20-24	54.8	Reference	Reference
	25-29	74.1	1.36 (0.83-2.22)	1.26 (0.77-2.07)
	30-34	83.0	1.52 (0.94-2.46)	1.27 (0.77-2.07)
	35-39	105.3	1.93 (1.16-3.23)	1.47 (0.87-2.50)
	≥40	91.1	1.67 (0.79-3.52)	1.09 (0.51-2.35)
Parity	1	84.5	Reference	Reference
	Nulliparous	100.9	0.86 (0.59-1.26)	1.04 (0.70-1.54)
	2-4	70.3	0.86 (0.59-1.26)	0.75 (0.39-1.47)
	Missing	51.5	0.52 (0.33-0.83)	0.57 (0.35-0.92)
Multi-fetal gestation		178.0	2.57 (1.69-3.89)	1.73 (1.11-2.68)
Diabetes		102.5	1.40 (0.92-2.12)	1.19 (0.77-1.84)
Gestational edema and proteinuria		363.6	4.94 (1.20-20.4)	5.15 (1.20-22.11)
Sepsis		400.0	5.50 (2.00-15.12)	2.83 (0.95-8.44)
Other puerperal infection		445.1	6.48 (3.78-11.10)	5.10 (2.88-9.04)
Antepartum hemorrhage/placenta previa		253.2	3.45 (1.51-7.86)	1.50 (0.63-3.57)
Placental abruption		305.7	4.48 (2.83-7.09)	4.38 (2.72-7.05)
Polyhydramnios		263.2	3.58 (1.45-8.80)	3.45 (1.37-8.71)
Induction of labour		43.1	0.38 (0.27-0.51)	0.48 (0.34-0.68)
Cesarean delivery		103.8	2.46 (1.77-3.43)	1.78 (1.22-2.59)
Uterine rupture		416.7	5.67 (0.76-42.19)	2.45 (0.31-19.68)
Cardiac failure		567.4	8.11 (3.91, 16.79)	4.46 (2.08-9.58)

*Adjusted for all variables in the table.

Table 3. Results of logistic regression showing effects of year of delivery and risk factors on obstetric acute renal failure (ARF) among women without hypertensive disorders of pregnancy (n=2,058,935), Canada (excluding Quebec), 2003 to 2010.

		ARF per 10 000 deliveries	Unadjusted odds ratio (95% confidence interval)	Adjusted odds ratio (95% confidence interval)*
Period	2003-2004	0.77	Reference	Reference
	2005-2006	0.99	1.28 (0.84-1.96)	1.35 (0.88-2.07)
	2007-2008	0.91	1.19 (0.77-1.82)	1.19 (0.77-1.84)
	2009-2010	0.93	1.21 (0.79-1.86)	1.12 (0.72-1.72)
Atonic postpartum hemorrhage		4.3	5.66 (3.96-8.08)	5.23 (3.55-7.68)
Non-atonic postpartum hemorrhage		13.7	18.04 (12.27-26.53)	18.36 (11.87-28.39)
Maternal age (in years)				
	<20	0.51	0.75 (0.29-1.98)	0.61 (0.23-1.63)
	20-24	0.69	Reference	Reference
	25-29	0.76	1.11 (0.67-1.83)	1.05 (0.64-1.75)
	30-34	0.88	1.29 (0.80-2.09)	1.07 (0.65-1.75)
	35-39	1.4	2.01 (1.21-3.33)	1.46 (0.86-2.47)
	≥40	1.9	2.84 (1.41-5.71)	1.41 (0.67-2.98)
Parity	1	1.14	Reference	Reference
	Nulliparous	0.57	1.85 (1.25-2.75)	1.78 (1.18-2.69)
	2-4	0.95	1.56 (0.95-2.56)	1.47 (0.89-2.44)
	>5	2.2	3.52 (1.38-8.98)	2.29 (0.85-6.15)
	Missing	0.84	1.39 (0.88-2.19)	1.27 (0.80-2.02)
Multi-fetal gestation		5.4	6.38 (3.70-11.00)	2.70 (1.53-4.76)
Diabetes		2.6	3.13 (2.05-4.77)	2.14 (1.37-3.32)
Gestational edema and proteinuria		18.3	20.74 (7.70-55.91)	10.64 (3.75-30.23)
Sepsis		76.0	93.19 (56.50-153.71)	15.63 (8.64-28.29)
Other puerperal infection		25.7	31.63 (19.67-50.86)	6.53 (3.77-11.31)
Antepartum hemorrhage/placenta previa		7.1	8.45 (4.90-14.58)	2.14 (1.17-3.89)
Placental abruption		8.6	10.53 (6.62-16.75)	5.17 (3.14-8.52)
Polyhydramnios		6.2	7.05 (3.13-15.90)	2.97 (1.24-7.10)
Induction of labour		1.25	1.53 (1.10-2.11)	1.53 (1.09-2.15)
Cesarean delivery		1.96	3.77 (2.82-5.04)	2.94 (2.13-4.07)
Uterine rupture		14.9	16.75 (5.35-52.40)	3.50 (1.03-11.85)
Cardiac failure		137.5	172.73 (108.31-275.49)	26.92 (15.53-46.68)

*Adjusted for all variables in the table.