
Morbidity and mortality associated with peripartum hysterectomy in Queensland

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Published by the State of Queensland (Queensland Health), November 2012



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Peripartum hysterectomy is one of the most devastating complications in obstetrics, particularly for women wanting to maintain their fertility. It is usually performed as an emergency procedure to control life-threatening haemorrhage. Although rare, it is associated with increased rates of morbidity and near-miss mortality. The incidence of peripartum hysterectomy (6.82 per 10,000 births) and associated risk factors in Queensland have been reported previously².

The purpose of this report is to document the morbidity and mortality of the 419 mothers (as reported previously) who underwent peripartum hysterectomy during a birth episode between 1 July 2000 and 30 June 2011. A combination of deterministic and probabilistic linkage was undertaken to identify all subsequent hospital episodes (following the hysterectomy or 'index' episode) in Queensland from the Queensland Hospital Admitted Patient Data Collection (QHAPDC), and to identify any deaths for these mothers recorded in the Queensland Registrar-General's Death data. One hundred mothers (24%) were transferred to another facility immediately following their index episode. For these mothers their transferred episodes were included in the analysis of outcomes as they formed a part of the mothers' initial post-hysterectomy hospital experience during which time adverse outcomes could arise or be diagnosed.

The median age of mothers undergoing hysterectomy was 33 years (range 15–51 years). Primiparous women accounted for almost 12% of mothers. The birth resulting in hysterectomy was undertaken by caesarean section in 82% of women; 59% had previously had a caesarean delivery. Total hysterectomy was performed in 75% of mothers and subtotal hysterectomy in 17% of mothers. The type of hysterectomy (total/subtotal) was unable to be determined from the procedure code in 8% of women.

Blood transfusion was required by 338 of the mothers studied (81%). Admission to the intensive care unit or coronary care unit (collectively referred to as ICU) was required for 233 mothers (56%). The median length of stay in the ICU was 26.0 hours and 75% of stays were 46.3 hours or less. The longest stay in the ICU was 425.8 hours (approx. 17 days 18 hours). Eight mothers (2%) died as a consequence of their condition that led to the need for hysterectomy. Half of these deaths occurred on the same day that the hysterectomy was performed.

Two hundred mothers (48%) had a diagnosis of anaemia recorded on their hospital record. Eighty-one percent of these cases were classified as acute post-haemorrhagic anaemia. The incidence of other maternal outcomes is given in Table 1. The percentages of disseminated intravascular coagulopathy (DIC) and fever found in our data were unusually

Table 1. Frequency of other adverse conditions among mothers having peripartum hysterectomy, Queensland, 2000/01-2010/11

Condition	No. mothers	Percentage
Bladder/Urinary tract injury	39	9.3
Cystotomy	11	2.6
Disseminated intravascular coagulopathy (DIC)	2	0.5
Fever	5	1.2
Ileus	11	2.6
Obstetric embolism	7	1.7
Obstetric wound infection	18	4.3
Puerperal sepsis	7	1.7
<i>Other puerperal infections</i>	20	4.8
Repair procedures on the urinary system	39	9.3

Source: Queensland Hospital Admitted Patient Data Collection, Queensland Health

low compared to other studies³⁻⁷. DIC is difficult to identify from the coding system used to capture diagnoses in our data, and is almost certainly under-reported; other studies on this topic used chart review. However, the same explanation is not plausible for the low rates of fever. It is unknown whether the lower rates of fever are associated with under-coding or better quality of care.

The date of the hysterectomy procedure was unavailable prior to 1 July 2001 (27 mothers). For all other mothers the median length of stay post-hysterectomy was 6 days (75th percentile: 8 days; max 39 days). For all mothers combined, 36 (9%) were readmitted to a Queensland hospital within 7 days of discharge, 71 (17%) were readmitted within 30 days, and 116 (28%) were readmitted to hospital within 365 days.

Babies of these mothers also had higher rates of adverse conditions, on average, than Queensland babies. In total, the mothers gave birth to 438 babies (including 17 twin sets and 1 triplet set). The babies had a median gestational age of 37 weeks (interquartile range (IQR): 34-38), and median birthweight of 2902.5g (IQR: 2265-3360). For babies born at term (N=234) this was 3267.5g (IQR: 2930-3600). One hundred and forty-five babies (33%) experienced respiratory distress at birth. By contrast, the corresponding Queensland figures for all babies in 2010 were: median gestational age - 39 weeks (38-40); median birthweight at term - 3470g (3160-3790); respiratory distress - 6%.

Rates of stillbirth and neonatal death were high. Twenty-one babies (4.8%) were stillborn, and 11 live-born babies (2.6%) died within 28 days of birth. The corresponding Queensland averages were 0.7% and 0.4% respectively.⁸ Eighty live-born babies required admission to the neonatal intensive care unit (19%), and an additional 203 (49%) babies were admitted to a special care nursery. In Queensland overall these figures were 2% and 14% respectively.

I wish to acknowledge the contribution of Kit Loke to the data linkage exercise undertaken for this StatBite.

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