

# Peripartum Hysterectomy Risk Factors in Taiwan

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Obstetric hemorrhage is still a big killer, causing female death throughout the world every minute of every day. Although the rate of maternal mortality due to major obstetric hemorrhage in Western countries, including Taiwan, is reported to be extremely low, obstetric hemorrhage is still frequently noted in routine clinical practice. The discrepancy between the frequent occurrence of obstetric hemorrhage and rare subsequent maternal mortality is worthy of our attention. One of the possible reasons is that these women are successfully managed when major obstetric hemorrhage occurs. This success may be secondary to improvements in anesthesia, medicine, surgery, and even radiology. Among these, uterine artery embolization and peripartum hysterectomy may be 2 of the most frequently used and effective methods for the management of women with major obstetric hemorrhage. In fact, peripartum hysterectomy is considered one of the most common emergent life-saving procedures in cases of intractable obstetric hemorrhage.<sup>1</sup> Although this procedure is familiar in clinical practice, the proper choice or timing of peripartum hysterectomy remains a big challenge for the majority of obstetricians.<sup>2</sup> Therefore, it is necessary to identify the risk factors contributing to peripartum hysterectomy. There are many reports in the literature that address this topic, including domestic data from Jou et al in Taiwan.<sup>2</sup> Based on hospital data,<sup>3,4</sup> many possible risk factors of peripartum hysterectomy have been identified, including placenta previa, placenta accreta, and uterine atony.<sup>2,3</sup>

In the July 2010 issue of the *Journal of the Chinese Medical Association*, Dr Yalinkaya and colleagues conducted a 16-year hospital data review to evaluate the outcomes and indications of peripartum hysterectomy.<sup>5</sup> The identified risk factors, such as uterine atony, uterine

rupture and abnormal placentation, are neither surprising nor beyond our understanding. However, that the advanced age of the women during pregnancy contributed to the high percentage of peripartum hysterectomy (5.38 per 1,000 deliveries) in this study might alarm us, in that it may be a real risk factor in Taiwan. In the domestic data from Jou et al, women  $\geq 35$  years old had the highest peripartum hysterectomy rate, with an adjusted odds ratio of 6.36 (95% confidence interval, 4.37–9.26), compared with women between 25 and 29 years of age.<sup>2</sup> Leridon and Slama calculated the impact of women postponing their first pregnancy attempt by 2.5 years, from 25.1 to 27.6 years.<sup>6</sup> The postponement of childbearing has multiple roots, and one important factor appears to be the prolongation of the period young adults spend in education.<sup>7</sup> In many modern societies, including Taiwan, the dual breadwinner pattern is frequent, indicating that both women and men want to pursue careers after achieving parenthood. The welfare state system, characterized by important features such as access to leave schemes for both parents, sufficient access to day childcare facilities, and legal equality between spouses, is in general considered to provide a proper framework for childbearing and child rearing.<sup>7</sup> Unfortunately, it is difficult to recommend to people when to have children. Many factors are involved, and the timing is an individual decision while weighing these factors. However, it is important to increase individual knowledge about the impact of age and other risk factors, such as the risk of increasing peripartum hysterectomy and pregnancy-related complications (e.g. preeclampsia)<sup>8</sup> at an older age, in order for people to better make informed decisions about childbearing.



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In addition, nearly half of all deliveries (46.7%) in this study were by cesarean section,<sup>5</sup> which may also be a risk factor, although the authors did not mention it. The presence of an attendant at every birth and access to emergency obstetric care are key to reducing maternal morbidity and mortality in the developing world, although resource-rich countries have a rising cesarean section rate with its consequent effect on the incidence of abnormal placentation and its link with peripartum hysterectomy.<sup>9</sup> In fact, cesarean section is the single most important factor resulting in peripartum hysterectomy, because women undergoing primary cesarean section had the highest peripartum hysterectomy rate, with an adjusted odds ratio of 12.13 (95% confidence interval, 8.30–17.14), compared with women undergoing vaginal delivery.<sup>2</sup> The risk from primary cesarean section is even more severe than that of repeated cesarean sections. This may indicate that the incidence of peripartum hysterectomy may increase significantly in the near future; if the age of women during pregnancy continues to increase, the primary cesarean section rate will continue to rise.

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