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## **Lessons learnt from anonymized review of cases of peripartum hysterectomy by international experts: a qualitative pilot study**

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**ABSTRACT**

Severe obstetric complications are not extensively studied and individual cases are used too little and inappropriately in quality improvement activities, due to limited numbers and prioritization of quantitative research. Nordic and European experts performed a qualitative

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pilot study using anonymized cases of peripartum hysterectomy. It was feasible to anonymize narratives and we learned lessons in the form of themes for improved clinical care and future research. Therefore, we plan a Nordic anonymized review of the care of women who have undergone peripartum hysterectomy based on narratives. The qualitative outcomes of clinically relevant themes for quality improvement and research will add value to the quantitative analyses from the Nordic medical birth registries. In the longer term, we believe that qualitative audits should be essential part of the process of continuing improvement in maternity care.

### **Keywords**

obstetric complications, peripartum hysterectomy, case narrative, qualitative audit, maternity care

### **Key message**

A pilot study of peripartum hysterectomies in the Nordic countries, the UK and the Netherlands showed that anonymization of case narratives was feasible. The qualitative analysis led to important themes for improved clinical care and future research.

Serious maternal complications and maternal death are under researched (1,2). One reason is that they are rare which is a problem when we perform quantitative studies using statistical significance as an outcome measure. Another reason is that we may face jurisdictional problems when we perform qualitative audits of individual cases. Examples are maternal deaths, or near misses, such as peripartum hysterectomy performed to save the life of the mother because of excessive bleeding. Legal and regulatory issues, prohibiting the transfer of identifiable and/or clinical information across countries, are limitations to detailed investigations into maternal deaths (2). In the context of rising concerns about maternal mortality, there must be greater efforts to overcome such obstacles.

We tested in a small pilot study our ability to learn lessons through sharing and expert obstetrical review of several anonymized case narratives. A meeting of the Nordic Obstetric Surveillance Study (NOSS) with collaborators from the International Network of Survey Systems (INOSS) (1) from the UK and the Netherlands was held on the 5<sup>th</sup> and 6<sup>th</sup> November 2018. Thirteen participants, experienced within national maternal mortality and morbidity auditing, reviewed the care of 12 women undergoing peripartum hysterectomy in seven countries. Pregnancy related hysterectomy is an uncommon severe complication usually performed for postpartum hemorrhage to avoid maternal death (3). It was chosen as an exemplar condition given the known increasing incidence of obstetric hemorrhage in the context of rising cesarean section rates (4). The aims of the pilot workshop were to determine whether common lessons for improving care could be identified from an international audit of anonymized case narratives (5, 6) and whether there was any added value to be obtained from the different national perspectives. Each participating country was asked to supply one or two recent anonymized case narratives.

The themes arising from the discussion fell broadly into two areas:

1. Lessons for improving clinical care.

In several instances, women had risk factors for abnormal placentation, but these were not taken into consideration when interpreting the findings of antenatal investigations. Recognition of these factors would have allowed for early discussion of the risk of complications with the women and preventive planning for possible delivery complications, including hysterectomy. Additionally, prior knowledge of women's future family plans may have allowed for an earlier decision for hysterectomy should it be indicated, instead of the 'too little, too late' approach that we frequently observed.

There were several areas where there were variations in clinical practice between countries when managing severe obstetric complications. These variations reflect partly a lack of evidence to guide practice. Also, the clinicians often showed a lack of consideration for the specific underlying cause of hemorrhage and thus the use of appropriate interventions before hysterectomy.

One of the current emerging challenges in obstetrics is the increasing occurrence of the placenta accreta spectrum (7). In several of the cases, the operating obstetrician was unaware of the condition and lacked knowledge of different approaches to management, including, alternative surgical techniques for cesarean section in the context of an anterior placenta previa. This observation was not limited to junior obstetricians. Sometimes in the context of postpartum hemorrhage from even consultants were also reluctant to undertake timely hysterectomy, partly because of underestimation of blood loss, a wish to preserve fertility and at times lack of experience. The challenge ahead lies in maintaining skills to deal with these major, but rare, emergencies, or alternatively, developing a service organization ensuring that surgeons with these skills are readily accessible.

Some of the women, who underwent hysterectomy, experienced earlier interventions, which workshop participants felt reflected 'too much, too soon'. Examples included excessive uterine stimulation in both induction and augmentation of labor, a history of uterine surgery including dilatation and curettage for missed abortion, rather than expectative management or medical evacuation, and cesarean section without a clear medical indication.

## 2. Lessons for future research

There were several areas where clinical management of the cases was highly variable reflecting the need for controlled studies. Intrauterine balloon tamponade and uterine artery embolization were used in multiple situations, and in some selected cases without clear benefit. Intrauterine balloon use some times led to concealed bleeding and delayed diagnosis without due consideration of the underlying cause of hemorrhage. From the pilot study of few cases it seems that close monitoring after balloon tamponade or embolization is very important, and the obstetrician should not delay peripartum hysterectomy in cases of profuse bleeding or if the woman is unstable. With many newer interventions, for example tranexamic acid, there was a wider range and timing of use without any real theoretical consideration of whether these interventions were really appropriate in those circumstances. Practice variation was also wide when considering surgical management of placenta accreta spectrum, with no controlled studies of

outcomes. The IDEAL framework should be used equally to apply to obstetric surgical interventions as to others (8), and many of these interventions are not even described at level 1 or 2 of the framework, let alone at the level of an RCT.

This workshop showed that review of anonymized case narratives is a method, legally permissible, and allowing information sharing and learning. The meeting resources needed were low, and yet national level messages were identified for all participating countries. The anonymization of narratives before evaluation was not difficult, and after harmonization by an external participant the cases can be presented without disclosure of the origin. We therefore plan a Nordic anonymized review of the care of all women who have undergone peripartum hysterectomy. The qualitative review will be based on narratives. We will add quantitative information on the background population from the Nordic medical birth registries. The outcomes will be clinically relevant themes for quality improvement or research, and in the longer term, we believe will form part of an essential process of continuing improvement in maternity care. In obstetrics a few cases all too often skew the perception of the clinician and influence his or her clinical management inappropriately – especially in the time following the event. We welcome similar international initiatives to share learning from rare and severe complications and ensure evidence-based action - not reaction.

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