Emergency Peripartum Hysterectomy in a Developing Country

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Abstract

Background: Emergency peripartum hysterectomy (EPH) is a life-saving surgical procedure that is associated with maternal morbidity and mortality, especially in developing countries. The advent of newer medical and conservative surgical methods of controlling postpartum hemorrhage will influence both the rate and the outcomes of the procedure.

Objective: To study the rate of EPH, the influence of sociodemographic characteristics on the rate of the procedure, the modality of treatment used in each of the indications, and maternal–fetal morbidity and mortality.

Methods: We conducted a case–control study of 30 patients who underwent EPH between June 1, 2003, and 31 May 31, 2008, at Aminu Kano Teaching Hospital, Kano, Nigeria, a tertiary institution in a developing country.

Results: The rate of EPH in this study was 4.0 per 1000 deliveries. Ruptured uterus (73.3%) was the most common indication. Factors showing a significant association with EPH were being 31 to 40 years old (OR 6.7; 95% CI 3.9 to 15.7), being para ≥ 5 (OR 4.1; 95% CI 1.87 to 9.1), having unbooked status (OR 9.1; 95% CI 3.6 to 24.9), and being in a low social class (OR 7.5; 95% CI 1.7 to 45.3). Ruptured uterus (OR 164.3; 95% CI 67.9 to 410.0) and placenta previa accreta (OR 36.1; 95% CI 10.0 to 117.3) were significantly associated with EPH. The most common morbidity was wound sepsis (60%). The case fatality rate was 13.3%, and perinatal mortality was 73.3%.

Conclusion: The rate of EPH in our institution is high, and maternal–fetal outcome is poor. Antenatal care and hospital delivery should be encouraged.

Résumé

Contexte : L'hystérectomie péripartum d'urgence (HPU) est une intervention chirurgicale salvatrice qui est associée à la morbidité et à la mortalité maternelles, particulièrement au sein des pays en développement. L'arrivée de nouvelles méthodes chirurgicales conservatrices et médicales permettant de juguler l'hémorragie postpartum influencera tant les taux que les issues de l'intervention.

Objectif : Étudier le taux d'HPU, l'influence des caractéristiques sociodémographiques sur le taux d'intervention, la modalité de traitement utilisée dans chacune des indications et la morbidité et la mortalité fœto-maternelles.

Méthodes : Nous avons mené une étude cas-témoins portant sur 30 patientes qui ont subi une HPU, entre le 1er juin 2003 et le 31 mai 2008, au *Aminu Kano Teaching Hospital*, à Kano, au Nigeria, soit au sein d'un établissement tertiaire situé dans un pays en développement.

Résultats : Dans le cadre de cette étude, le taux d'HPU a été de 4,0 par 1 000 accouchements. La rupture utérine (73,3 %) constituait l'indication la plus courante. Parmi les facteurs présentant une association significative avec l'HPU, on trouvait le fait d'être âgée de 31 à 40 ans (RC, 6,7; IC à 95 %, 3,9 - 15,7), le fait d'être para ≥ 5 (RC, 4,1; IC à 95 %, 1,87 - 9,1), le fait de ne pas être inscrite (RC, 9,1; IC à 95 %, 3,6 - 24,9) et le fait d'appartenir à une classe sociale défavorisée (RC, 7,5; IC à 95 %, 1,7 - 45,3). La rupture utérine (RC, 164,3; IC à 95 %, 67,9 - 410,0) et le placenta prævia accreta (RC, 36,1; IC à 95 %, 10,0 - 117,3) présentaient une association significative avec l'HPU. La sepsie de plaie constituait la morbidité la plus courante (60 %). Le taux de létalité était de 13,3 % et le taux de mortalité périnatale était de 73,3 %.

Conclusion : Au sein de notre établissement, le taux d'HPU est élevé et les issues fœto-maternelles sont de piètre qualité. L'obtention de soins prénatals et l'accouchement à l'hôpital devraient être favorisés.

Key Words: Emergency peripartum hysterectomy, emergency peripartum hysterectomy rate, indications, management options, maternal-fetal outcome.

Competing Interests: None declared.

Received on November 28, 2011

Accepted on January 24, 2012

J Obstet Gynaecol Can 2012;34(10):954–960

INTRODUCTION

Emergency hysterectomy is the surgical removal of the uterus following an unexpected and sudden event, which must be dealt with urgently by carrying out the procedure.[1–4] When it is carried out in a woman with a pregnant uterus less than 24 hours after delivery, it is termed emergency peripartum hysterectomy.[1,2] This life-saving obstetric procedure has been in use for more than 100 years, since Edward Porro in 1876 published the first case report of a successful procedure in which both mother and baby survived.[1]

A comparison of institutional figures shows that the rate of EPH in Nigeria ranges from 1.8 to 5.4 per 1000 births.[5–7] In Pakistan the reported rate is 5.6 per 1000 births,[1] in India 2.6 per 1000 births,[3] and in the United States between 1.2 and 2.7 per 1000 births.[8,9] However, the rate is lower in European countries: a rate of 0.2 per 1000 births was reported from Norway,[10] and 0.3 per 1000 births from Ireland[11] and the Netherlands.[12] This may be because of proper use of effective antenatal and delivery facilities, and the desire for small family size in Europe.[11,13,14]

The increasing rate of the procedure in developed countries such as the United States and Canada, despite proper use of effective antenatal and delivery facilities, has been attributed to the increasing Caesarean section rate,[4,8,13] which predisposes to placenta previa and placenta previa accreta. These two conditions are now the leading indications for EPH in developed countries.[8]

Developing countries like Nigeria may have high rates of the procedure because more deliveries take place outside health facilities and are unsupervised or poorly supervised.[14] They also take place in communities with a high prevalence of risk factors for primary postpartum hemorrhage and EPH, such as uterine fibroids in pregnancy, multiple pregnancies, grand multiparity, unbooked status, and prolonged labour (which are associated with uterine atony). Uterine fibroids, a myomectomy scar, a contracted pelvis, and previous Caesarean section predispose women to ruptured uterus and possibly to placenta previa or placenta previa accreta.[5–7]

In Nigeria, 70% of deliveries are conducted outside hospitals by unskilled birth attendants, traditional birth attendants, traditional priests, herbalists, or prophets, and 16.9% of women deliver alone without assistance from anyone.[15] Delay in getting appropriate care in labour has been attributed to poor development of essential obstetric care facilities; most rural public hospitals and health centres do not function 24 hours per day, and road networks and transportation systems to the cities are poor.[15,16] In Pakistan 89% of women deliver at home, and of these 80% are delivered by traditional birth attendants.[1]

The most common indication for EPH is severe uterine hemorrhage that cannot be controlled by conservative measures.[17] Such hemorrhage may be due to abnormal placentation (e.g., placenta previa and placenta previa accreta), uterine atony, uterine rupture, leiomyomas, coagulopathy, or laceration of a uterine vessel that is not treatable by conservative measures.[17–19] The relative frequency of these conditions is variable and is dependent upon the patient population and practice patterns.[17]

A sequence of conservative measures to control uterine hemorrhage should be attempted before resorting to more radical surgical procedures.[17] If an intervention does not succeed, the next treatment in the sequence should be swiftly instituted.[17,18] Hysterectomy should not be performed too early or too late.[17] Delay leads to further hemorrhage and anemia, and may be responsible for the high maternal mortality.[5] The skills that are necessary for performing hysterectomy are best acquired with an experienced mentor during scheduled non-emergency cases.[1,3,4,20]

Recent advances in the medical and conservative management of postpartum hemorrhage have reduced the rate of and indications for EPH,[17,18] while sophistication in obstetric care and blood transfusion services have improved outcomes, especially in developed countries.[17] This study was designed to determine the rate of EPH at Aminu Kano Teaching Hospital, Kano, Nigeria (a tertiary health facility in a developing country), the indications for performing those procedures, and the outcomes, in order to make recommendations that will reduce the incidence of the procedure and improve its outcome.

METHODS

This was a case–control study of 30 women who had EPH at the Aminu Kano Teaching Hospital, Kano, Nigeria, between June 1, 2003, and 31 May, 2008.

For the purpose of this study, booked patients were pregnant women who registered for care at our booking clinic and attended three follow-up clinics, but we also recorded a woman who was without any medical or obstetric risk factors, and who registered at our booking

ABBREVIATIONS

EPH	emergency peripartum hysterectomy
PPH	postpartum hemorrhage