



# Emergency obstetrical hysterectomy in a low-income country: about 70 cases

**Authors:** Souayeh Nesrine<sup>1,2</sup>, Elghrairi Ahmed<sup>1,2</sup>, Bettaieb Hajer<sup>1,2</sup>, Rouis Hadhemi<sup>1,2</sup>, Hsayaoui Najeh<sup>1,2</sup>, Mbarki Chaouki<sup>1,2</sup>, Chaieb Imen<sup>3</sup>

Obstetrics and Gynecology Department- Ben ArousRegional Hospital<sup>1</sup>

University Tunis Elmanar, Faculty of medicine<sup>2</sup>

Faculty of Medecine of Sfax<sup>3</sup>



**Introduction:**  
Emergency obstetric hysterectomy (EOH) is a life-saving procedure performed in cases of severe postpartum hemorrhage that cannot be controlled by conservative measures. This retrospective study aimed to describe the risk factors, indications, and complications associated with EOH, as well as determine the postoperative maternal prognosis. Understanding these factors is crucial for optimizing patient outcomes and guiding clinical decision-making.

**Methods:**  
This was a retrospective, single-centre, descriptive study conducted over a 17-year period, from January 2003 to December 2019 in Ben Arous regional hospital. We included patients with vaginal or caesarean delivery beyond 28 gestational weeks (GW), who had a severe postpartum haemorrhage, within 24 hours of delivery, requiring primary EOH or after the failure of conservative surgical treatment.

**Results:**  
Seventy cases of EOH were enrolled. The rate of EOH was 1.3 ‰, i.e. one EOH per 769 deliveries. The mean age was 34.5 years ( $\pm$  5.1). The most common risk factors were multiparity 51/70 (73%), caesarean delivery 47/70 (67%), and scarred uterus 41/70 (60%). The median delivery term was 38 GW and five days. The route of delivery was predominantly by cesarean section, with 67% of women. The rate of vaginal delivery was 33% including one instrumental delivery by forceps. The main symptom was heavy vaginal bleeding observed in 84% of patients (59/70). The average haemoglobin of our patients was 10.67 g/dl [ $\pm$ 1.68]. 79% of patients required blood transfusion. 41 patients (59%) had an EOH after conservative treatment failure, and 29 patients (41%) required primary EOH. The first-line conservative treatment was in most cases uterine artery ligation (70%). The second-line conservative procedure was a triple Tsurulnikov ligation in 70% of cases, and bilateral hypogastric artery ligation in 30% of patients. In the third line, bilateral hypogastric artery ligation was performed in 5/27 patients (19%). The indications for EOH were multiple, dominated by placenta accreta in 27 patients (39%), followed by uterine inertia in 24 patients (34%), and uterine rupture in 11/70 (16%). The intraoperative morbidity rate was 34% (24/70). The most frequent complications were, in order of frequency, haemorrhagic shock 12/70 (17%), and bladder damage 4/70 (6%). Eleven patients (16%) were transferred to intensive care unit. The postoperative morbidity rate was 16%. These complications were dominated by acute renal failure 3/70 (4%) and haemorrhagic shock 3/70 (4%). There were six cases of maternal death (8%).

**Discussion:**  
The study included 70 cases of EOH over a 17-year period, with an overall rate of 1.3 per 1,000 deliveries. The mean age of the patients was 34.5 years, and the most common risk factors observed were multiparity, previous caesarean delivery, and scarred uterus. The majority of deliveries were by cesarean section, and heavy vaginal bleeding was the predominant symptom in 84% of cases. Conservative surgical techniques were attempted prior to EOH in most cases, with uterine artery ligation being the first-line treatment. However, in 59% of cases, EOH was performed after the failure of conservative treatment, while 41% required primary EOH. Placenta accreta was the most common indication for EOH, followed by uterine inertia and uterine rupture. The intraoperative morbidity rate was 34%, with the most frequent complications being hemorrhagic shock and bladder damage. A significant proportion of patients (16%) required transfer to the intensive care unit, and the postoperative morbidity rate was also 16%. The complications observed included acute renal failure and hemorrhagic shock. Tragically, there were six cases of maternal death (8%).

The findings of this study highlight the critical nature of EOH as a life-saving procedure for managing severe postpartum hemorrhage. Despite the advancements in conservative surgical techniques, EOH remains an unavoidable intervention for obstetricians when conservative measures fail. The identified risk factors, indications, and complications provide valuable insights for clinicians and can guide decision-making in emergency situations.

To further improve patient outcomes, efforts should focus on preventive strategies and early recognition of risk factors associated with severe postpartum hemorrhage. Additionally, ensuring access to appropriate resources, such as blood transfusions and intensive care facilities, is crucial for managing the potential complications associated with EOH.

Further research is needed to explore interventions aimed at reducing the incidence of EOH and improving maternal outcomes. Prospective studies with larger sample sizes and multicenter collaborations could provide a more comprehensive understanding of the risk factors, optimize conservative surgical techniques, and identify strategies to minimize complications associated with EOH.



**Figure1:** Hysterectomy specimen for placenta accreta

**Conclusions:**  
Although conservative surgical techniques for the treatment of post-partum haemorrhage have considerably reduced the incidence of EOH, it remains , nevertheless, the unavoidable maternal life-saving procedure that any obstetrician may face.

References:

Clark SL, Yeh SY, Phelan JP, Bruce SR, Paul RH. Emergency hysterectomy for obstetric hemorrhage. *Obstet Gynecol.* 1984 May;63(5):664-8.

Gizzo S, Di Gangi S, Noventa M, Bacile V, Zambon A, Nardelli GB. Emergency postpartum hysterectomy: a retrospective study in a single tertiary care center from 2002 to 2012. *ScientificWorldJournal.* 2014;2014:537875. doi: 10.1155/2014/537875.

El-Hamamy E, Bahloul M, Shaaban OM, El-Sharkawy M. Emergency obstetric hysterectomy: a retrospective study. *J Obstet Gynaecol Res.* 2005 Apr;31(2):144-8. doi: 10.1111/j.1447-0756.2005.00269.x.

Silver RM. Abnormal Placentation: Placenta Previa, Vasa Previa, and Placenta Accreta. *Obstet Gynecol.* 2015 Nov;126(5):654-68. doi: 10.1097/AOG.0000000000001083.

Knight M, Nair M, Tuffnell D, Kenyon S, Shakespeare J, Brocklehurst P, Kurinczuk JJ; on behalf of MBRRACE-UK. Saving Lives, Improving Mothers' Care - Lessons learned to inform maternity care from the UK and Ireland Confidential Enquiries into Maternal Deaths and Morbidity 2015-17. Oxford: National Perinatal Epidemiology Unit, University of Oxford; 2019.

Gizzo S, Di Gangi S, Patrelli TS, Saccardi C, Bertocco A, Capobianco G, D'Antona D, Nardelli GB, Angioni S, Bacile V, Zambon A, D'Amico R, D'Antona N, Nardelli F, Modena AB. Update on best available options in obstetrics anaesthesia: peripartum hysterectomy and associated considerations. *Minerva Anesthesiol.* 2013 Nov;79(11):1247-65.