



Emergency obstetrical hysterectomy: subtotal or total hysterectomy?

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Introduction:

Emergency obstetrical hysterectomy (EOH) is a life-saving surgical procedure performed in cases of severe postpartum hemorrhage that cannot be controlled by conservative measures. The choice between total EOH (TEOH) and subtotal EOH (SEOH) remains a matter of debate and is influenced by various factors. This retrospective study aimed to determine the factors influencing the choice of EOH type and compare the outcomes between the two techniques.

Methods:

This was a retrospective, single-centre, descriptive, and analytical study conducted over a 17-year period, spanning from January 2003 to December 2019. 70 patients were included in this study. They either have had a vaginal or caesarean delivery beyond 28 weeks of amenorrhoea, with severe postpartum haemorrhage within 24 hours of delivery requiring immediate EOH or after the failure of conservative surgical treatment. We compared data from patients who had a total EOH with those with a subtotal EOH to investigate factors influencing the choice of operative technique.

Results:

In our series, 41 patients (59%) had an EOH after the failure of conservative treatment, and 29 patients (41%) required an immediate EOH. Subtotal EOH (SEOH) was performed in 55 patients (79%), and 15 patients (21%) had total EOH (TEOH). The mean age of patients in the SEOH group was 34.15 [$\pm$ 5.52], and 35.8 [$\pm$ 3.12] in the TEOH group ($p=0.14$). Parity and socioeconomic level did not make a difference between the two groups. The use of TEOH was higher in patients with a scarred uterus ($p=0.02$, OR=5.8, and CI 95%=1.19-28.27). In our series, uterine inertia was significantly associated with the SEOH group ($p = 0.013$; OR = 0.09 and CI 95% = 0.01 - 0.81). The other indications were the same between the two groups. There was no statistically significant difference in the incidence of complications between the SEOH and TEOH groups. The transfusion requirement in the SEOH group was not different from that in the TEOH group ($p=0.246$) ($p=0.571$). The mean operation time was significantly shorter for the SEOH group than for the TEOH group, 167.45 $\pm$ 69.28 minutes versus 230 $\pm$ 74.05 minutes, respectively ($p<0.002$). Comparison of patients' data by multivariate logistic regression analysis ruled out scar uterus and uterine inertia. It retained placenta accreta, and procedure duration as factors influencing the choice of hysterectomy type.

Discussion:

The findings of this study provide valuable insights into the factors influencing the selection of EOH type in emergency obstetric cases. The analysis of patient data revealed that scarred uterus and uterine inertia were not significant factors in determining the choice between SEOH and TEOH. However, placenta accreta and procedure duration were identified as influential factors.

Placenta accreta, a condition characterized by abnormal placental implantation, can lead to severe bleeding and increase the complexity of the hysterectomy procedure. It is not surprising that this condition influenced the choice of hysterectomy type, as TEOH may be preferred for complete removal of the placenta and associated tissues. Additionally, procedure duration played a role, with shorter operation times favoring SEOH.

The absence of statistically significant differences in maternal age, parity, and socioeconomic level between the two groups suggests that these factors may not heavily influence the choice of EOH type. However, it is important to consider that this study was conducted in a single center, and further research involving larger and more diverse populations is warranted to confirm these findings.

The debate on the superiority of subtotal hysterectomy over total hysterectomy in emergency situations remains inconclusive. The conflicting results reported in the literature may stem from the challenges associated with randomization in life-threatening emergencies. It is more plausible to consider that the indication for hysterectomy itself guides the surgeon's decision, based on their clinical judgment and experience.

To improve patient outcomes and optimize surgical decision-making, future research should focus on larger multicenter studies, utilizing standardized protocols and involving a wider range of patient populations. Additionally, prospective studies evaluating long-term outcomes, such as fertility preservation and quality of life, would provide valuable information for both clinicians and patients.

In conclusion, this retrospective study sheds light on the factors influencing the choice of EOH type in emergency obstetric cases. Placenta accreta and procedure duration were identified as influential factors, while scarred uterus and uterine inertia did not significantly impact the decision-making process. The literature's conflicting findings regarding the superiority of subtotal hysterectomy over total hysterectomy highlight the need for further research and consideration of individual clinical circumstances in emergency situations. Ultimately, the surgeon's expertise and clinical judgment play a pivotal role in selecting the appropriate operative technique to ensure the best possible outcomes for the patient.

Conclusions:

The conflicting results in the literature regarding the superiority of subtotal hysterectomy over total hysterectomy may be explained by the randomisation, which is extremely difficult to consider in a life-threatening emergency. However, it seems more interesting to assume that it is the indication of the hysterectomy itself that guides the surgeon, according to his clinical appreciation and experience.

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.