Research Article ISSN 2835-6276

American Journal of Medical and Clinical Research & Reviews

Role of the Midwife in Hemorrhage Management

Felis S, Loddo S.

Obstetrics & Gynecology Department - IRCCS San Martino Hospital-Genova -Italy

*Correspondence: Felis S

Received: 10 Nov 2023; Accepted: 13 Nov 2023; Published: 20 Nov 2023

Citation: Felis S. Role of the Midwife in Hemorrhage Management. AJMCRR 2023; 2(11): 1-7.

ABSTRACT

Severe hemorrhage occurs in less than 1% of all pregnancies; however, it remains one of the important causes of maternal morbidity and mortality. Although the importance of hemorrhage has been recognized in obstetric circles for years, in the last decade or so, research has been conducted that has disproven long-held beliefs. Nurse-midwives must be knowledgeable about the etiology, management, and treatment of postpartum hemorrhage. This article presents an overview of postpartum hemorrhage and its pharmacologic and nurse-midwifery management. The overview includes definitions of postpartum hemorrhage, identifies risk factors for hemorrhage, and addresses problems associated with estimation of blood loss. The mechanisms of action of ergots, oxytocin, and prostaglandins are described, and criteria for selecting a medication are presented. Herbal remedies for hemorrhage are discussed briefly. Also discussed are the optimal time for drawing the hematocrit and what this laboratory value can tell the nurse-midwife.

Keywords: Community; Prevention; Treatment (postpartum hemorrhage, obstructed labor, puerperal infection, eclampsia, and abortion); Follow-up.

Introduction

As is now well known, the progressive development of state-of-the-art prevention techniques and therapies has made it possible in recent years to significantly reduce the maternal mortality rate linked to postpartum haemorrhage (EPP) in developed countries (1, 2). As a result, the approach of health professionals to this type of pathology has also changed.

Role of the midwife in the prevention of EPP

Prevention of EPP begins as early as outpatient check-ups during pregnancy, as there are known factors that can put women at increased risk of bleeding (Table 1) (4). The purpose of these visits is therefore, among others, to identify women with one or more factors who need to be carefully followed, educated and made aware of the existence of a high-risk pregnancy (8,16).

Antepartum Risk Factors	
Body mass > 30 Kg/m^2	*Advanced maternal age*
Placental abruption	*Placenta previa*
Multiparity	*Estimated fetal weight > 4000 gr*
Nullity	*Coagulation pathology*
Anaemia	*Polyhydramnium*
Uterine fibroids	*Prior obstetric hemorrhage*
Prior placental retention	*Previous uterine surgery*

Table 1 Antepartum risk factors for EPP (2.5-8)

In addition to those listed in the table, the presence of other risk factors such as belonging to Hispanic or Asian ethnicities and low sociocultural level must also be taken into account (1,2,4,9,10).

In this particular situation, the midwife plays a key role, especially with regard to those women who do not follow or poorly follow the prenatal indications aimed at preventing EPP. The creation of a strong obstetric-parturient bond based on mutual trust and open communication makes it possible to immediately smooth out potential conflicts and to become aware of the causes that lead the woman to a poor management of antenatal risk factors. It will then be the task of the midwife to make the various health-care workers aware and involved in the situation in order to implement a treatment program that is as suitable as possible and in accordance with the woman's physical needs, not only but also socio-psycho-cultural (2:11-16).

The role that the midwife plays in the prevention of EPP then continues in labor, during which it is necessary to encourage the woman to hydrate abundantly in order to maintain an adequate plasma volume and to balance the inevitable loss of fluids that childbirth entails (16-18,20).

In women with *intrapartum risk factors* for EPP (table no. 2) this precaution is even more important, becoming more imperative than ever.

Intrapartum Risk Factors
Prolonged labor (> 12 hours)
Extended third stage (> 30 minutes)
Fever
Placental retention
Operative delivery
Caesarean section (especially if performed in an emergency during an advanced dilation pe-
Amniotic fluid embolism
Placental abruption

Table No. 2 Intrapartum risk factors for EPP

Diagnosis of EPP

The task of the midwife who assists the woman in the delivery room is to promptly identify the presence of excessive bleeding, alert the gynaecologist (3,6,9) and collaborate effectively and actively with the professionals (gynecologist, anesthesiologist, resuscitator, transfusionist, nurses, obstetricians) who deal with the management of the bleeding event.

It should be remembered that during pregnancy the number of erythrocytes and non-corpuscular components of the blood increase, as a result the volume of plasma can increase up to 1250 ml. For this reason, a healthy pregnant woman can tolerate blood loss of up to 25% of her total volume before suddenly worsening (19). Added to this is the objective difficulty in quantifying blood loss in the postpartum period (2,23).

Pallor, sweating and muscle weakness associated with the onset of severe and rapid fatigue are indicative signs of the presence of initial hemodynamic decompensation that should not be underestimated (19). The aggravation of the shock is manifested by the onset of confusion and restlessness, serious signs that indicate the need to act quickly (19).

Although an early onset of postpartum haemorrhage is more frequent, women can also experience this complication in the puerperium, often reporting a high number of pads used for abundant lochiations but on many occasions these findings are ignored (19).

Obstetric Management of EPP

Since midwives are the health professionals who most often interface one-to-one with women, they must be able to independently deal with loss of consciousness and resuscitation maneuvers in the event of cardiovascular collapse, while waiting for the help of the doctor (19,24,25). In particular, they must make sure that the woman has a patent airway and breathes regularly. If this condition is not ensured, hypoxia can result in maternal death much more rapidly than hypovolemia.

The first step to correct hypovolemia is to administer an adequate amount of fluids. This administration can be carried out directly by the midwife in the absence of a written prescription from the doctor and should be understood as bridging therapy pending the start of transfusion therapy as soon as possible (3). Each ml of blood lost must be replaced by 3 ml of fluid through a large venous double access (19,23,24).

Equally fundamental is the monitoring of the outputs through the placement of a bladder catheter for hourly diuresis (19).

Finally, it is necessary to maintain an adequate body temperature by implementing the appropriate precautions (infusion of hot liquids, use of blankets) (19,24).

The midwife also plays an active and fundamental role during secondment. Table 2 shows the two main clinical practices for the obstetric management of the third stage of labor and delivery aimed at preventing EPP.

Each therapeutic manoeuvre must be accurately recorded in the file and must include the name of the healthcare professional (midwife or doctor) who performed the procedure (3,31,32).

c	Waiting Management
Administration of oxytocin at fetal anterior shoulder expulsion ↓ Clamping and immediate section of the umbilical cord ↓ Moderate traction on the umbilical course to promote secondment (to be performed when the uterus is centralized and well contracted) ↓ Extraction of placenta and membranes by the midwife	No administration of oxytocin ↓ Clamping of the cord near the baby's navel when its pulsatility is lost. ↓ No traction on the bead ↓ Waiting for signs of separation: *Uterine fundus ascent* *Bead elongation* *Occurrence of blood drip from GEs* ↓ Spontaneous leakage of the placenta under maternal pressure

Table 3 Options for Clinical Management of the Third Stage of Labor

Puerperium Management in Women Who Have Had EPP

Care for women who have had postpartum hemorrhage must be accurate and with constant monitoring, maintaining the One-to-One ratio (6,8,9,26). General clinical conditions, vital signs, blood loss should be recorded, and a balance should be made between fluid intake and elimination (27,28). These parameters must be included in special scoring systems that make it possible to identify women who do not respond to therapy and require timely intervention.

If the woman needs it, she should be admitted to an intensive care unit (6.8, 9.26).

Since the experience of postpartum haemorrhage is often experienced in a traumatic way, the time needed to recover full mental health, as well as physical health, can be considerably long (30) but intensive monitoring often means that this important aspect of postpartum care is neglected (27,30). Having a closely dedicated midwife available in the hospital who encourages breastfeeding, skin-to-skin contact and actively involves the woman at every stage of newborn care can lead to great benefits (29).

Effective Communication

Emergency management can be complex, especially if multiple operators are present and there is no proper communication between the team members dealing with the (32,33). In order to optimize emergency management as much as possible, various training programs have been designed for healthcare personnel that focus their attention on the first 20-30 minutes after the onset of the acute event (38,39). Teamwork is complex and its proper functioning requires that there is an operator who takes command (called team leader) of the situation and directs the work of the team (32,34).Usually the team leader is the senior obstetrician, the most experienced delivery room operator, for this system to work, younger obstetricians and midwives must recognize the leader's abilities to lead the team in the emergency and follow his directions (32,34). The leader's task is to evaluate the effectiveness of instituted treatments and rethink potential causes of postpartum hemorrhage when the treatment practiced proves ineffective (35).

This role can also be assumed by the senior midwife if at the time of the emergency she is the person who has the most experience among those who are taking care of the woman.

Conclusions

The role of the midwife is central to the prevention, diagnosis and treatment of postpartum hemorrhage. He is the first operator who has to face the emergency, to carry out the first resuscitation manoeuvres and is the interface through which the woman is managed, thanks to the ability to establish a relationship based on respect and mutual trust with the patient whom the midwife takes care of.

REFERENCES

1. Khan SK, Wojdyla D, Say L, Gülmezoglu AM, Van Look P.: WHO analysis of causes of maternal death: a systematic review. Lancet 2006; 367:1066–74
2. Confidential Enquiry into Maternal and Child Health (CEMACH). Saving Mothers Lives: reviewing maternal deaths to make motherhood safer (2003–2005). London, UK: Royal College of Obstetricians and Gynaecologists, 2010
3. Nursing and Midwifery Council (NMC). Midwives Rules and Standards. London: NMC, 2004
4. National Institute for Health and Clinical Excellence (NICE). Antenatal Care. Routine Care for the Healthy Pregnant Woman. NICE clinical guideline 62, London: NICE, 2008
5. McLintock C. State-of-the-art lectures: Postpartum Haemorrhage. Thrombosis Res 2005; 1155:65–8
6. Royal College of Obstetricians and Gynecologists. Prevention and Management of Postpartum Hemorrhage. Green-top Guideline No. 52. 2009
7. Selo-Ojeme DO. Primary postpartum hemorrhage. J Obstet Gynaecol 2002; 22:463–9
8. Hazra S, Chilaka VN, Rajendran S, Konje JC. Massive postpartum hemorrhage as a cause of maternal morbidity in a large tertiary hospital. J Obstet Gynaecol 2004; 24:519–20
9. Waterstone M, Wolfe C, Hooper R, Bewley S. Postnatal morbidity after childbirth and severe obstetric morbidity. Br J Obstet Gynaecol 2003; 110:128–33
10. Doran T, Denver F, Whitehead M. Is there a north-south divide in social class inequalities in health in Great Britain? Cross sectional study using data from 2001 census. Br Med J 2004; 328:1043–5
11. World Health Organization. WHO Guidelines for the Management of PPH and Retained Placenta. Geneva, Switzerland: WHO, 2009
12. Graham WJ, Hundley V, McCheyne AL, Hall MH, Gurney E, Milne J. An investigation of women's involvement in the decision to deliver by caesarean section. Br J Obstet Gynaecol 1999; 106:213–20
13. Buckley SJ. Undisturbed birth – nature's hormonal blueprint for safety, ease and ecstasy. J Perinatal Psychol Health 2003; 17:261–88
14. Guiver D. The epistemological foundation of midwife-led care that facilitates normal birth. Evidence Based Midwifery 2004; 2:28–34

15. Hunter B. Conflicting ideologies as a source of emotion work in midwifery. Midwifery 2004; 20:261–72

16. National Institute for Health and Clinical Excellence (NICE). Intrapartum care: care of healthy women and their babies during childbirth. NICE clinical guideline 55. London, UK: NICE, 2007

17. Yogev S. Support in labour: a literature review. MIDIRS Midwifery Digest 2004; 14:486–92

18. Oudshoorn C. The art of midwifery, past, present and future. MIDIRS Midwifery Digest 2005; 15:461–8

19. Stainsby D, MacLennan S, Thomas D, Issac J, Hamilton PJ. Guidelines on the management of massive blood loss. Br J Haematol 2006; 135:634–41

20. Ryan M, Roberts C. A retrospective cohort study comparing the clinical outcomes of a birth centre and labour ward in the same hospital. Aust Midwifery J 2005; 18:17–21

21. Simpson KR. Failure to rescue: implications for evaluating quality of care during labour and birth. J Perinat Neonat Nursing 2005; 19:24–34

22. Prendiville WJP, Elbourne D, McDonald SJ Active versus expected management in the third stage of labour. Cochrane Database Syst Rev 2000;(3):CD000007

23. Mousa HA, Alfirevic Treatment for primary postpartum haemorrhage. Cochrane Database Syst Rev 2007;(1): CD003249

24. Clarke J, Butt M. Maternal collapse. Curr Opin Obstet Gynecol 2005; 17:157–60

25. Resuscitation Council (UK). Resuscitation Guidelines 2010. http://www.resus.org.uk/pages/guide.htm

26. Paruk F, Moodley J. Severe obstetric morbidity. Curr Opin Obstet Gynecol 2001; 13:563–8

27. Okafor UV, Aniebu U. Admission pattern and outcome in critical care obstetric patients. Int J Obstet Anesthesia 2004; 13:164–6

28. Goebel N. High dependency midwifery care – does it make a difference? MIDIRS Midwifery Digest 2004;14: 221–6

29. Carfoot S, Williamson P, Dickson R. A randomized controlled trial in the north of England examining the effects of skin-to-skin contact on breast feeding. Midwifery 2005;21: 71–9

30. Kline CR, Martin DP, Deyo RA. Health consequences of pregnancy and childbirth as perceived by women and clinicians. Obstet Gynecol 1998; 92:842–8

31. Nursing and Midwifery Council (NMC). Guidelines for Records and Record Keeping. London: NMC, 2009

32. Brownlee M, McIntosh C, Wallace E, Johnston F, Murphy- Black T. A survey of interprofessional communication in a labour suite. Br J Midwifery 1996; 4:492–5

33. Duff E. No more ‘quarrelling at the mother’s bedside’: inter-professional approaches can help to stop women dying. MIDIRS Midwifery Digest 2004; 14:35–6

34. Cro S, King B, Paine P. Practice makes perfect: maternal emergency training. Br J Midwifery 2001; 9:492–6

35. Mousa HA, Walkinshaw S. Major postpartum hemorrhage. Curr Opin Obstet Gynaecol 2001; 13:595–603

36. Heagerty BV. Reassuring the guilty: the midwives act and the control of English midwives in the early 20th century. In: Kirkham M, ed. Supervision of Midwives. Cheshire: Books for Midwives Press, 1996 Sabey A, Jacobs K. Live and learn. Health Service J 2003;16: 32–3

37. Dennis CL, Creedy DK. Psychosocial and psychological interventions for preventing postpartum depression. Cochrane Database Syst Rev 2004;(4):CD001134

38. National Institute for Health and Clinical Excellence (NICE). Antenatal and Postnatal Mental Health: Clinical Management and Service Guidance. NICE clinical guideline 45. London UK: NICE, 2007