WHO recommendation on the use of surgical interventions for the
treatment of postpartum haemorrhage

21 September 2012

Recommendation

If bleeding does not stop in spite of treatment using uterotonics and other available conservative interventions (e.g. uterine massage, balloon tamponade), the use of surgical interventions is recommended.

(Strong recommendation, very-low-quality evidence)

Publication history

First published: September 2012

Updated: No update planned

Assessed as up-to-date: September 2012

Remarks

- The GDG noted that the use of manoeuvres and other procedures requires training and that maternal discomfort and complications associated with these procedures have been reported.
- The GDG noted that conservative surgical approaches should be tried first. If these do not work, they should be followed by more invasive procedures. Compression sutures, for example, may be attempted as a first intervention, and if these fail, then uterine, utero-ovarian and hypogastric vessel ligation may be tried. If life-threatening bleeding continues even after ligation, then a subtotal (otherwise known as supracervical) or total hysterectomy should be performed.
- The GDG acknowledged that the level of health care provider skills will play a role in the selection and sequence of the surgical interventions.

Background
Postpartum haemorrhage (PPH) is defined as blood loss of 500ml or more within 24 hours after birth. PPH is the primary cause of nearly one-fifth of all maternal deaths globally. Most of these deaths occur during the first 24 hours after birth. The majority could be prevented through the use of prophylactic uterotonic drugs during the third stage of labour, and by timely and appropriate management.

Surgical interventions include various forms of compression sutures, ligation of the uterine, ovarian or internal iliac artery, and subtotal or total hysterectomy. All of them aim to control PPH when medical or mechanical interventions have failed.

**Methods**

The recommendation was developed using standardized operating procedures in accordance with the process described in the “WHO handbook for guideline development”, based on the GRADE approach (1, 2). Outcomes used for this recommendation were the prioritized outcomes from the WHO recommendations on prevention and treatment of postpartum haemorrhage (2012).(3)

A wide range of surgical interventions has been reported for the control of PPH that is unresponsive to medical or mechanical interventions.

No RCTs comparing these interventions have been published. Case series, case reports and overviews provided evidence. Data on relevant outcomes and comparisons were evaluated.

WHO convened a Guideline Development Group (GDG) meeting in March 2012. This group of independent experts used the evidence profiles to assess evidence on effects on the pre-specified outcomes. GDG members discussed the balance between desirable and undesirable effects, overall quality of supporting evidence, values and preferences, magnitude of effect, balance of benefits versus disadvantages, resource usage, and feasibility, to formulate the recommendation. Remarks were added to clarify the recommendation, and aid implementation.

Further information on procedures for developing this recommendation are available [here](#).

**Recommendation question**

For this recommendation, we aimed to answer the following question:

- For women with postpartum haemorrhage (P), do surgical interventions (I) compared to placebo or no treatment (C) improve outcomes (O)?

**Evidence summary**

No RCTs have examined the use of uterine compressive sutures for the treatment of PPH. Twenty-six case series and 12 case reports were identified (425 women). Eight overviews of the use of compression sutures have also been published. The B-Lynch technique appears to be the most commonly reported procedure. Success rates (indicating that there was no use of hysterectomy or other invasive procedures) ranged from 89% to 100%.
Similarly, no RCTs were identified on the use of selective artery ligation for the treatment of PPH. Thirty case series and 19 case reports have been published (682 women) and studies report success rates (indicating that there was no use of hysterectomy or other invasive procedures) ranging from 62% to 100%.

Further information on evidence supporting this recommendation are available [here](#).

**Implementation considerations**

- The successful introduction of evidence-based policies related to the prevention and management of PPH into national programmes and health care services depends on well-planned and participatory consensus-driven processes of adaptation and implementation. These processes may include the development or revision of national guidelines or protocols based on this recommendation.
- The recommendation should be adapted into locally-appropriate documents and tools that are able to meet the specific needs of each country and health service. Modifications to the recommendation, where necessary, should be justified in an explicit and transparent manner.
- An enabling environment should be created for the use of this recommendation, including changes in the behaviour of health care practitioners to enable the use of evidence-based practices.
- Local professional societies may play important roles in this process and an all-inclusive and participatory process should be encouraged.

**Related links**

WHO recommendations on prevention and treatment of postpartum haemorrhage (2012) - [full document](#) and [evidence tables](#)

Managing Complications in Pregnancy and Childbirth: A guide for midwives and doctors

Pregnancy, Childbirth, Postpartum and Newborn Care: A guide for essential practice

**Related resources**

VIDEO: Active management of third stage of labour

Education material for teachers of midwifery. Managing postpartum haemorrhage.

**Research implications**

The GDG did not identify any research priorities related to this recommendation.

**References**


Published on RHL (https://extranet.who.int/rhl)

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