Postpartum hemorrhage

Guideline Developer(s)

American College of Obstetricians and Gynecologists

Date Released

2006 Oct (reaffirmed 2013)

Full Text Guideline

Postpartum hemorrhage. (mailto:sales@acog.org)

Evidence Supporting the Recommendations

- Type of Evidence Supporting the Recommendations
  The type of supporting evidence is identified and graded for each recommendation (see "Major Recommendations").

Implementation of the Guideline

- Description of Implementation Strategy
  An implementation strategy was not provided.

- Implementation Tools
  Audit Criteria/Indicators

Benefits/Harms of Implementing the Guideline Recommendations

- Potential Benefits
  Appropriate evaluation and management of women with postpartum hemorrhage

- Potential Harms
  - Undiluted rapid oxytocin IV infusion causes hypotension.
  - Care must be taken in performing curettage to avoid perforation of the uterus.

Rating Scheme for the Strength of the Recommendations

Based on the highest level of evidence found in the data, recommendations are provided and graded according to the following categories:

**Level A** — Recommendations are based on good and consistent scientific evidence.

**Level B** — Recommendations are based on limited or inconsistent scientific evidence.

**Level C** — Recommendations are based primarily on consensus and expert opinion.
Qualifying Statements

These guidelines should not be construed as dictating an exclusive course of treatment or procedure. Variations in practice may be warranted based on the needs of the individual patient, resources, and limitations unique to the institution or type of practice.

Methodology

Methods Used to Collect/Select the Evidence
- Hand-searches of Published Literature (Primary Sources)
- Hand-searches of Published Literature (Secondary Sources)
- Searches of Electronic Databases

Description of Methods Used to Collect/Select the Evidence

2006 Original Document
The MEDLINE database, the Cochrane Library, and the American College of Obstetricians and Gynecologists' own internal resources and documents were used to conduct a literature search to locate relevant articles published between January 1901 and June 2006. The search was restricted to articles published in the English language. Priority was given to articles reporting results of original research, although review articles and commentaries also were consulted. Abstracts of research presented at symposia and scientific conferences were not considered adequate for inclusion in this document. Guidelines published by organizations or institutions such as the National Institutes of Health and American College of Obstetricians and Gynecologists were reviewed, and additional studies were located by reviewing bibliographies of identified articles.

2013 Reaffirmation
The NCBI database was searched from 2006 to 2013. Committee members conducted a literature search with the assistance from the ACOG Resource Center staff who routinely perform the Practice Bulletin literature searches.

Number of Source Documents
Not stated

Methods Used to Assess the Quality and Strength of the Evidence
Weighting According to a Rating Scheme (Scheme Given)

Rating Scheme for the Strength of the Evidence
Studies were reviewed and evaluated for quality according to the method outlined by the U.S. Preventive Services Task Force:

I: Evidence obtained from at least one properly designed randomized controlled trial.

II-1: Evidence obtained from well-designed controlled trials without randomization.

II-2: Evidence obtained from well-designed cohort or case–control analytic studies, preferably from more than one center or research group.

II-3: Evidence obtained from multiple time series with or without the intervention. Dramatic results in uncontrolled experiments also could be regarded as this type of evidence.

III: Opinions of respected authorities, based on clinical experience, descriptive studies, or reports of expert committees.

Methods Used to Analyze the Evidence
Systematic Review

Description of the Methods Used to Analyze the Evidence
Not stated

Methods Used to Formulate the Recommendations
Expert Consensus

Description of Methods Used to Formulate the Recommendations

2006 Original Document

Analysis of available evidence was given priority in formulating recommendations. When reliable research was not available, expert opinions from obstetrician–gynecologists were used. See also the "Rating Scheme for the Strength of Recommendations" field regarding Grade C recommendations.

2013 Reaffirmation

The Committee on Practice Bulletins - Obstetrics met in October 2013 and reaffirmed this document. A committee member reviewed the document and new literature on the topic. The document was then reviewed by the committee and the committee agreed that it is current and accurate.

Cost Analysis

A formal cost analysis was not performed and published cost analyses were not reviewed.

Method of Guideline Validation

Internal Peer Review

Description of Method of Guideline Validation

Practice Bulletins are validated by two internal clinical review panels composed of practicing obstetrician-gynecologists generalists and sub-specialists. The final guidelines are also reviewed and approved by the American College of Obstetricians and Gynecologists (ACOG) Executive Board.

Identifying Information and Availability

Bibliographic Source(s)


Adaptation

Not applicable: The guideline was not adapted from another source.

Source(s) of Funding

American College of Obstetricians and Gynecologists (ACOG)

Guideline Committee

American College of Obstetricians and Gynecologists (ACOG) Committee on Practice Bulletins-Obstetrics

Composition of Group That Authored the Guideline

Not stated

Financial Disclosures/Conflicts of Interest

Not stated

Guideline Status

This is the current release of the guideline.

The American College of Obstetricians and Gynecologists (ACOG) reaffirmed the currency of the guideline in 2013.

Guideline Availability

Electronic copies: None available

Print copies: Available for purchase from the American College of Obstetricians and Gynecologists (ACOG) Distribution Center, PO Box 933104, Atlanta, GA 31193-3104; telephone, 800-762-2264, ext. 192; e-mail: sales@acog.org. The ACOG Bookstore is available online at the ACOG Web site.

Availability of Companion Documents

Proposed performance measures are included in the original guideline document.
Scope

Disease/Condition(s)
- Postpartum hemorrhage

Guideline Category
- Evaluation
- Management
- Treatment

Clinical Specialty
- Emergency Medicine
- Family Practice
- Obstetrics and Gynecology

Intended Users
- Physicians

Guideline Objective(s)
- To aid practitioners in making decisions about appropriate obstetric and gynecologic care
- To review the etiology, evaluation, and management of postpartum hemorrhage

Target Population
- Women during the first 24 hours after delivery (at risk for primary postpartum hemorrhage), especially those with:
  - Uterine atony
  - Retained placenta—especially placenta accreta
  - Defects in coagulation
  - Uterine inversion
- Women between 24 hours and 6–12 weeks after delivery (at risk for secondary postpartum hemorrhage), especially those with:
  - Subinvolution of placental site
  - Retained products of conception
  - Infection
  - Inherited coagulation defects
- Women with other risk factors for postpartum hemorrhage

Interventions and Practices Considered

Evaluation/Management

1. Multi-disciplinary approach with high clinical suspicion
2. Laboratory evaluation of lost blood
3. Testing for bleeding disorders among patients with menorrhagia
4. Medical management, including use of uterotonic agents
5. Exploratory laparotomy
6. Ultrasonography
7. Drainage of hematomas
8. Uterine compression or massage
9. Tamponade: packing of the uterine cavity, Foley catheter insertion, Sengstaken-Blakemore tube insertion, SOS Bakri tamponade balloon use
10. Surgical management, including uterine curettage and hysterectomy
11. Arterial ligation or embolization
12. Blood component therapy (donor or autologous): packed red cells, platelets, fresh frozen plasma, cryoprecipitate
13. Manual replacement of the uterine corpus
14. Antibiotics

Poststabilization Management

1. Prenatal vitamin and mineral capsules
2. Additional iron tablets
3. Erythropoietin

**Major Outcomes Considered**
- Time to cessation of bleeding
- Incidence of serious sequelae (adult respiratory distress syndrome, coagulopathy, shock, loss of fertility, and pituitary necrosis)
- Loss of fertility
- Mortality

**Recommendations**

**Major Recommendations**

The grades of evidence (I-III) and levels of recommendations (A-C) are defined at the end of the “Major Recommendations” field.

The following recommendations and conclusions are based primarily on consensus and expert opinion (Level C):

- Uterotonic agents should be the first-line treatment for postpartum hemorrhage due to uterine atony.
- Management may vary greatly among patients, depending on etiology and available treatment options, and often a multidisciplinary approach is required.
- When uterotonics fail following vaginal delivery, exploratory laparotomy is the next step.
- In the presence of conditions known to be associated with placenta accreta, the obstetric care provider must have a high clinical suspicion and take appropriate precautions.

**Definitions:**

**Grades of Evidence**

I: Evidence obtained from at least one properly designed randomized controlled trial.

II-1: Evidence obtained from well-designed controlled trials without randomization.

II-2: Evidence obtained from well-designed cohort or case–control analytic studies, preferably from more than one center or research group.

II-3: Evidence obtained from multiple time series with or without the intervention. Dramatic results in uncontrolled experiments also could be regarded as this type of evidence.

III: Opinions of respected authorities, based on clinical experience, descriptive studies, or reports of expert committees.

**Levels of Recommendations**

Level A — Recommendations are based on good and consistent scientific evidence.

Level B — Recommendations are based on limited or inconsistent scientific evidence.
Contraindications

- Relative contraindication for 15-methylprostaglandin F\textsubscript{2a} in patients with hepatic, renal, and cardiac disease. Diarrhea, fever, tachycardia can occur.
- Avoid methylergonovine if patient is hypertensive.
- Avoid 15-methylprostaglandin F\textsubscript{2a} in asthmatic patients.
- Avoid dinoprostone if patient is hypotensive. Fever is common.

Institute of Medicine (IOM) National Healthcare Quality Report Categories

- IOM Care Need
  - Getting Better

- IOM Domain
  - Effectiveness
  - Timeliness

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