L05: Maternal Vaginal Bleeding (< 20 Weeks)

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Updated: June 10, 2021
Reviewed: March 01, 2021

Introduction

Vaginal bleeding is common in the first trimester (0 to 13+6 weeks), occurring in 20 to 40% of pregnant women. It may be any combination of light or heavy, intermittent or constant, painless or painful. The five major sources of non-traumatic bleeding in early pregnancy are: ectopic pregnancy; early pregnancy loss; implantation of the pregnancy; threatened abortion; and cervical, vaginal, or uterine pathologies (e.g., polyps, inflammation/infection, gestational trophoblastic disease).

An ectopic pregnancy is an extrauterine pregnancy most commonly presenting with at least one missed menstrual cycle, vaginal bleeding, nausea, abdominal pain, and/or pre-syncopal symptoms.

A ruptured ectopic pregnancy occurs at 6 to 10 weeks gestation and presents with severe or persistent abdominal pain associated with syncope, hypotension, shoulder tip pain (Kehr's sign), rebound tenderness, or guarding.

Miscarriage, also called a spontaneous abortion or early pregnancy loss, is defined as a non-viable intrauterine pregnancy up to 20 weeks gestation. The majority of miscarriages occur in the first trimester. Spontaneous abortions are common but a distressing complication of pregnancy. Common signs and symptoms associated with the condition are abdominal pain or cramping and vaginal bleeding.

Essentials

- All patients with suspected ectopic pregnancy must be conveyed to hospital, regardless of the severity of their presentation or response to management.
- Patients experiencing potential spontaneous abortions may present with the following signs:
  - Abdominal or pelvic pain/cramping. Pain may radiate to lower back, buttocks, or genitals.
  - Vaginal bleeding may be present and can range from spotting to life threatening hemorrhage. Depending on gestation and the nature of the miscarriage, the patient may pass the product of conception.
- Rapid conveyance of unstable patients to surgically capable ED is essential.
- Any woman of childbearing age with any of the following symptoms should be considered as presenting with a ruptured ectopic pregnancy until proven otherwise:
  - abdominal pain
  - vaginal bleeding
  - shock or syncope
- Unstable patients should be managed in accordance with CPG D01: Shock.

Additional Treatment Information

- Antifibrinolytic treatment may be considered in cases of severe, ongoing bleeding with evidence of hemodynamic compromise and long transport times. Consultation with CliniCall is required for care planning.
- Consider analgesia and antiemetics.
- Consider using abdominal pads to estimate blood loss en route to ED.
- There is no diagnostic procedure or specific management of miscarriage in the out-of-hospital environment. Management should focus on emotional support of the patient and treatment of symptoms such as pain and nausea. Paramedics and EMRs/FRs should always keep a high index of suspicion for life threatening complications, such as major hemorrhage or ectopic pregnancy.

Referral Information

All patients with suspected ectopic pregnancy or spontaneous abortion must be conveyed to the closest and most appropriate facility, regardless of the severity of their presentation or response to management.

General Information

- Ectopic pregnancies occur in 1-2% of all pregnancies and are caused by the developing embryo implanting outside the uterus. The vast majority (over 98%) of ectopic pregnancies are located within the fallopian tubes. Worldwide, the incidence of ectopic pregnancy is rising; this has been attributed to a variety of risk factors, including:
  - In vitro fertilization and fertility treatments
  - Sexually transmitted illnesses (e.g., chlamydia and gonorrhea)
  - Pelvic inflammatory disease
  - Use of intrauterine devices
  - Advanced maternal age
  - Tubal damage from previous surgeries
  - Endometriosis
- Bleeding in pregnancy should be evaluated based on gestational age of the fetus and the characteristics of the bleeding (light vs. heavy, painful vs. painless, intermittent vs. constant).
- Patients may pass products of conception which can range in nature from blood clots to a recognizable fetus. In the event of preterm labour in the second trimester, delivery may proceed spontaneously. The fetus may initially make small movements or gasp. While an infant delivered at greater than 20 weeks gestation must be registered as a birth from a legal perspective, there is no prospect for successful resuscitation prior to 23 weeks gestation. It is reasonable for paramedics and EMRs/FRs to withhold resuscitation; this decision should be explained to the patient in a sensitive way.
- Regardless of appearance or gestation, the fetus may be important to the patient. Do not dispose of the fetus. Treat the fetus respectfully in accordance with the patient's wishes. If necessary, clamp and cut the umbilical cord. Paramedics and EMRs/FRs should wrap the fetus and convey it with the patient. Products of conception are generally sent to pathology for further examination. The patient or other family members may wish to hold the fetus. This should be supported as the patient or other family members often feel comforted by the fact that the fetus was held after the dying process.
- Many women experience a strong sense of loss, sadness, anger, disbelief, disappointment, sense of isolation, and often guilt. It is normal to experience a range of feelings. Paramedics and EMRs/FRs should acknowledge the impact of the miscarriage with compassion and understanding. Minimizing the loss of the pregnancy can significantly worsen the patient's experience.

Interventions

First Responder

- Provide position of comfort for patient
- Keep patient warm and prevent heat loss
- Provide supplemental oxygen as required
  - → A07: Oxygen Administration

Emergency Medical Responder – All FR interventions, plus:

- Provide supplemental oxygen as required to maintain $SpO_2 \geq 94\%$
  - → A07: Oxygen Administration
- Convey with early hospital notification
- Consider analgesia as required:
  - → E08: Pain Management
    - Nitrous oxide

Primary Care Paramedic – All FR and EMR interventions, plus:

- Obtain vascular access and correct hypoperfusion or hypovolemia if SBP < 90 mmHg
  - → D03: Vascular Access
  - Consider 2 large bore IVs, initiated while en route

- Provide warm IV fluids if possible

Critical Care Paramedic – All FR, EMR, PCP, and ACP interventions, plus:

- Advanced diagnostics if in remote ER setting: (e.g:β-hCG, ultrasound, CBC, lactate)
- Blood products
  - Call ETP prior to blood product administration
- Reverse anticoagulants
  - Call ETP prior to reversal agent
- Consider OR/Surgery by local GP to temporize if OB/GYN not available

Evidence Based Practice

Abdominal Pain

Supportive

- Analgesia (narcotic)
- Fentanyl
- Ketamine
- Analgesia (NSAIDs)
- Nitrous Oxide

Neutral

Against

Hemorrhagic Shock

Supportive

- Plasma infusion
- Restricted Crystalloids
- Tranexamic Acid
- Mechanical Intraosseous Insertion
- Shock Prediction Tool

Neutral

- Colloid Infusion
- Hypertonic Saline
- Trendelenburg
- Blood transfusion
- Manual Intraosseous Insertion

Against

- Aggressive Crystalloids
- MAST
- Pressors

Nausea and Vomiting

Supportive

- Antiemetic (Central)
- Antiemetic (GI Action)
- Isopropyl alcohol

Neutral

Against

PV Bleed/Threatened Abortion

Supportive

Neutral

Against

References

1. Ambulance Victoria. Clinical Practice Guidelines: Ambulance and MICA Paramedics. 2018. [Link]
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3. Stovall TG et al. Emergency department diagnosis of ectopic pregnancy. 1990. [Link]
4. WOMAN Trial Collaborators. Effect of early tranexamic acid administration on mortality, hysterectomy, and other morbidities in women with post-partum haemorrhage (WOMAN): An international, randomised, double-blind, placebo-controlled trial. 2017. [Link]