L05: Maternal Vaginal Bleeding (< 20 Weeks)

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Introduction

Vaginal bleeding is common in the first trimester (0 to 13+6 weeks), occurring in 20 to 40 percent 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 (such as, 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 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 transported to hospital regardless of the severity of their presentation or response to management.
- Women 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 transport of unstable patients to surgically capable ED is essential.
- Any woman of childbearing age with any of the following symptoms should be considered 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

- While there are no tranexamic acid treatment trials in ectopic pregnancies specifically, use of tranexamic acid in this setting is supportable by extrapolation from CRASH2 and WOMAN trials
- 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 pre-hospital environment. Management should focus on emotional support of the mother and treatment of symptoms such as pain and nausea. Paramedics 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 transported to the closest 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 gonorrhoea)
  - 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 paramedic to withhold resuscitation and this decision should be explained to the parents in a sensitive way.
- Regardless of appearance or gestation, the fetus may be important to the mother. Do not dispose of them. Treat them with respect in accordance with the mother's wishes. If necessary, clamp and cut the umbilical cord. Paramedics should wrap the fetus and transport with the mother. Products of conception are generally sent to pathology for further examination. The mother or other family may wish to hold the infant, especially if it has shown signs of life and a resuscitation attempt is withheld. The should be encouraged appropriate as parents often feel comforted by the fact that the infant was held during 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 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 supplemental oxygen as required
  - → A07: Oxygen and Medication Administration

Emergency Medical Responder – All FR interventions, plus:

- Provide supplemental oxygen as required to maintain SpO_2 > 94%
  - → A07: Oxygen and Medication Administration
- Keep patient warm and prevent further heat loss
- Transport 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
- Consider antifibrinolytic therapy (requires CliniCall consultation (1-833-829-4099)
  - Tranexamic acid

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
- Reverse anticoagulants
- Consider OR/Surgery by local GP to temporize if OB/GYN not available.

Evidence Based Practice

Abdominal Pain

Hemorrhagic Shock

Nausea & Vomiting

PV Bleed/Threatened Abortion

References

1. Ambulance Victoria. Clinical Practice Guidelines: Ambulance and MICA Paramedics. 2018. [Link]
2. Roberts I, et al. The CRASH-2 trial: A randomised controlled trial and economic evaluation of the effects of tranexamic acid on death, vascular occlusive events and transfusion requirement in bleeding trauma patients. 2013. [Link]
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]