Per vaginal (PV) bleeding in early pregnancy

With Dr Neil Campbell, Staff Specialist in Obstetrics & Gynaecology at Royal Prince Alfred Hospital, New South Wales, Australia

Case – 30 year old woman presents to the ED 6 weeks gestation with PV bleeding

1. As a junior doctor, what is your initial approach?

If haemodynamically unstable, move the patient to the resuscitation bay, stabilise and implement resuscitative measuresGet IV access and order bloods including group & hold ± cross-match, FBC, β-hCG, progesterone.

If haemodynamically stable, take a thorough history and perform a clinical examination, before ordering relevant investigations and contacting the appropriate personnel.

2. What are the differential diagnoses for PV bleeding in early pregnancy?

- Threatened miscarriage (acute, minimal bleeding, no pain)
- Inevitable miscarriage
- Incomplete miscarriage (heavy bleeding, cramping)
• Missed miscarriage
• Ectopic pregnancy
• Ovarian pathology – cyst rupture, torsion
• Appendicitis

### 3. Assuming the patient is stable, what would your approach be?

#### History
- Ask about the following:
  - Severity of pain
  - Amount and duration of bleeding
  - Risk factors for ectopic pregnancy – previous ectopic, pelvic inflammatory disease, endometriosis

#### Examination
- Vitals
- General cardiovascular + respiratory examination
- Abdominal palpation – looking for signs of unilateral peritonism ± shoulder tip pain secondary to diaphragmatic irritation
- Clinical inspection of vulva and vagina – quantify bleeding, and check for any products of conception (POC)
- Speculum examination – quantify bleeding, check cervical os status (open or closed) and the presence of POC near the os, or in the vagina
- Bimanual examination – estimate the size of uterus, and localize area of tenderness

*If uncertain with performing a speculum examination, it would be advisable to ask a more senior medical officer to supervise.

#### Investigations
- FBC
- Progesterone – a helpful marker when history and clinical examination yield an uncertain diagnosis. Two examples:
  - Low $\beta$-hCG, progesterone < 10 and empty uterus on ultrasound, indicates complete miscarriage. The patient can be discharged and followed up in a few days in the Early Pregnancy clinic.
  - $\beta$-hCG 800-1000, progesterone 20-60, indicates that an ectopic is more likely
- Group & hold ± cross-match
  - Rhesus blood group must be collected in any scenario of PV bleeding
  - 20-30% of women are Rhesus-negative and require anti-D injections to prevent sensitization upon exposure to Rhesus-positive fetal cells in the maternal circulation.
If POC are obtained from the speculum examination, place in formalin and send to pathology. Rare risk of a partial or complete molar pregnancy.

4. Ultrasounds – when should you do it, and what is the difference between the transabdominal and transvaginal approach?

Ultrasound is a good initial screening tool when combined with a $\beta$-hCG level and clinical suspicion for an ectopic pregnancy.

- Transvaginal ultrasound is more sensitive for picking up a gestational sac, which should be visible if $\beta$-hCG > 1000.
- Transabdominal ultrasound can detect an 8-week embryo and fetal heartbeat.

5. Results return. The $\beta$-hCG is positive, but there is no gestational sac on transvaginal ultrasound. What are your differentials?

- **Complete miscarriage**
  - Early pregnancy of uncertain viability
  - Ectopic pregnancy, yet to be determined

6. What is your management?

- Complete miscarriage
  - Discharge and follow up $\beta$-hCG levels in Early Pregnancy Clinic
  - Early pregnancy of uncertain viability (stable), the options are:
    - If $\beta$-hCG < 1000, discharge and follow up in Early Pregnancy Clinic
    - Give Mifepristone for 48 hrs before commencing oral/buccal Misoprostol
    - Wait and see, with serial $\beta$-hCG levels
  - Early pregnancy of uncertain viability (unstable)
    - If $\beta$-hCG < 1000 and symptomatic with risk factors, contact O&G team for emergency dilatation & curettage
  - If Rhesus-negative, give anti-D IMI 250U (< 12 weeks gestation) or 625U (> 12 weeks gestation)
  - Counselling available in Early Pregnancy Clinic, liaise with midwives and social workers
Always consider ectopic pregnancy!
- In any amount of PV bleeding in pregnancy, check the Rhesus-group.
- If uncertain about discharging a patient, escalate care.

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