PV bleeding in the non-pregnant patient

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Abnormal vaginal bleeding is a common problem experienced by women of all ages, affecting approximately 10-30% of those of reproductive age, and up to 50% of perimenopausal women. Junior doctors are commonly asked to see women presenting with acute per vaginal (PV) bleeding in the Emergency Department (ED), or to review them on the wards following admission. This podcast outlines a safe and effective approach to the initial assessment and management of PV bleeding in the non-pregnant patient.

Case 1 – You’re the junior doctor working in ED and are asked to see a 22-year-old patient with vaginal bleeding. The triage nurse has noted a negative urinary pregnancy test.

1. What are the common causes of PV bleeding for women of reproductive age, who are not pregnant?
   - The common causes have been listed by the International Federation of Obstetricians and Gynaecologists (FIGO)
   - Structural
     - Polyps
     - Adenomyosis
     - Leiomyomas (‘fibroids’)
     - Malignancy & hyperplasia
   - Functional
     - Coagulopathy
     - Ovulation disorders
       - Polycystic ovarian syndrome – a cause of heavy, irregular PV bleeding
       - Disorders causing suppression of the hypothalamic ovarian pituitary axis, e.g. LH surges, microadenomas – causes of light, irregular PV bleeding
   - Endometrial disorders
     - Endometritis, particularly in the post partum period
   - Iatrogenic or inherent bleeding disorders
   - ‘Not yet classified’

2. As you approach the patient, you notice that she looks pale and you measure a pulse rate of 105 beats per minute. The blood pressure seems to be okay, so what is your initial approach?
   - Like all emergency presentations of haemorrhage, you need to focus on the primary survey and assessing haemodynamic stability
   - It is important to be aware that young gynaecology patients are typically very well, and can compensate for haemorrhage without compromising vital signs such as blood pressure
   - Insert a large bore intravenous cannula, take a full blood count +/- coagulation studies (according to the estimated amount of blood loss)
   - Resuscitate with fluids as appropriate
   - Confirm a state of non-pregnancy – it is always preferable to do a serum b-hCG over urinary b-hCG
   - Once the patient is haemodynamically stable, proceed to history and examination

Summarised by Dr Amanda White, Intern, Royal Prince Alfred Hospital. August 2015
3. **What are some of the historical features you would ask for?**
   - It is important to ask questions that differentiate vaginal bleeding from rectal bleeding
   - Is the bleeding during the menstrual periods, or intermenstrual?
   - Is it provoked or unprovoked (e.g. post-coital, traumatic)?
   - Background past medical history? Particularly asking for predispositions to bleeding, e.g. a coagulopathic disorder such as von Willebrand’s disease
   - Surgical history, as this may affect available treatment options

4. **How can the junior doctor estimate the amount of bleeding that has occurred?**
   - This is fairly difficult to estimate with a subjective account from the patient
   - Try to use objective measures, such as:
     - ‘How regularly are you needing to change pads?’
     - ‘Are they filling and soaking through to your underwear?’
     - ‘Are there any clots, and what size are they (e.g. 50 cent piece, golf ball size)?’
   - Look through the nursing record to note the number of pads that have been used since the patient has been in the ED
   - It would also be helpful to record postural blood pressures as a sign of intravascular volume depletion

5. **Is there any confusion created when the patient is taking an oral contraceptive pill (OCP)?**
   - It is important to ask patients how they are taking their OCP, and whether they give themselves breaks or not
   - If they take the sugar pills, they should have bleeding fairly regularly
   - Some patients may have skipped their previous periods by omitting the sugar pills, which can make their bleeds erratic or irregular – in that way it may cause confusion when a patient presents with irregular PV bleeding. However, they should still have an idea of whether the amount of bleeding is heavier/lighter than usual

6. **What is your approach to examination?**
   - Start off with general inspection and vital signs
   - Abdominal examination
     - Irregular enlargement of a fibroid uterus?
     - Round, smooth and bulky uterus of adenomyosis?
     - In most cases of PV bleeding in the non-pregnant patient, the abdominal examination is going to be fairly benign
   - Vaginal and speculum examinations are important

7. **There is some controversy regarding the requirement of junior doctors to perform speculum exams in the ED. What should they be looking for when performing speculum and vaginal examinations?**
   - Speculum and vaginal examinations are important
   - It is important to start by inspecting generally for any signs of trauma
     - Inspect the vulva externally
     - When inserting the speculum, don’t just concentrate on finding the cervix
     - Make sure when you open up the speculum that you’re looking at the vaginal side walls to identify any lacerations causing bleeding
     - The vagina is very well vascularised and can be a site of significant blood loss
   - Once you can see the cervix, look for any clots sitting in the cervical os
     - A large clot in the cervix can cause a vagal response
     - It may be the reason why the patient is hypotensive and/or bradycardic
     - If you remove the clots, the vagal stimulus caused by stretching of the cervix will be removed, and the patient’s vital signs may return to normal

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• Visualise any source of bleeding to identify how brisk the bleeding is
  o Do you need to ask for help, for an extra set of hands, to instigate treatment to tamponade the bleeding?
  o If you can visualise a slow trickle of blood, you may be reassured that you have more time to work the patient up thoroughly
• The bimanual examination is important as it may give you an indication of uterine pathology
  o An irregularly shaped uterus may indicate fibroids
  o An adenomyotic uterus is round with generalised bulkiness
  o A malignancy may be felt as a mass or irregularity

8. When is it appropriate to collect swabs for microbiology (e.g. for pelvic inflammatory disease [PID] or endometritis)?
• It is good practice to take the opportunity to collect a high vaginal swab
  o A high vaginal swab can identify chronic endometritis, which is a treatable and reversible cause of abnormal uterine bleeding
• Some forms of PID – particularly sexually-transmitted PID – can give you regular spotting
  o Therefore it can be worthwhile also doing an endocervical swab in high risk patients

9. Are there any other investigations you would do other than the routine blood tests (full blood count, coagulation studies, B-hCG and a Group & Hold)?
• What is really needed in this scenario is some form of imaging of the uterus, cervix and ovaries. This is usually in the form of an ultrasound scan, which is generally the next step in investigation of PV bleeding

10. How do you determine if the patient requires admission, or if they can be managed in an outpatient setting?
• Outpatient management if all of the following:
  o Chronic, heavy bleeding and fairly stable haemoglobin
  o The patient is feeling well after fluid resuscitation (if it was required)
  o It is expected that the patient will follow-up reliably
    ▪ It would be reasonable in this scenario to investigate the source of the bleeding in an outpatient setting, where there is access to a clinic that can offer specialty follow-up
• Inpatient management if any of the following:
  o Haemodynamic instability
  o Requirement for packed red blood cell transfusion
  o A patient that is deemed unreliable for follow-up
  o If the bleeding is ongoing and they are in the heaviest part of their cycle. It may be sensible to admit the patient for observation and progesterone therapy

11. What medications would you recommend for management of the PV bleeding?
• First line treatments that can be started in the Emergency Department, to be followed up with the gynaecology clinic/private gynaecologist include:
  o Tranexamic acid
    ▪ This is a very good agent that can be used around the time of the period
    ▪ Advise against use when they are not bleeding
    ▪ It is a very effective way to decrease blood loss, until more definitive treatment is available
    ▪ The main contraindication is previous or predisposition to venous thromboembolic disease
  o Oral progestogens
    ▪ Thin the lining of the uterus
    ▪ Can be very effective to decrease bleeding
12. Any take home points regarding young, non-pregnant patients with PV bleeding?
   • Always rule out pregnancy in this situation
   • Take an opportunistic approach to screening for sexually transmitted infections while the patient is in hospital

Case 2 – You are called on an after-hours shift about a 64-year-old female who is having vaginal bleeding on the ward, having been admitted for another reason.

1. What are the common causes of PV bleeding in post-menopausal women?
   • The causes are still the same as outlined in the previous scenario, however in this population the most common cause by far is vaginal atrophy
     o It is caused by a hypo-oestrogenised state
     o Vaginal tissues are more friable
     o Slight trauma can cause spotting, with bright red blood loss
   • However in this population you must exclude malignancy and hyperplasia
     o Any post-menopausal woman with bleeding needs a biopsy
     o You can perform an ultrasound scan to visualise the ovaries and estimate the thickness of the endometrium, however the gold standard investigations are:
       ▪ Direct visualisation of endometrial lining and vaginal mucosa by hysteroscopy
       ▪ Tissue biopsy

2. Does the age of this patient change your previous approach to initial management? Is it appropriate to send this patient home on a progestogen?
   • There is no additional harm due to the patient’s postmenopausal status, however be aware of general contraindications to progesterone
   • In fact, progesterone therapy is one of the treatments for simple hyperplasia
   • The important point to make is that they need to have quick and reliable follow-up
     o The urgency arises from the possibility that they have an underlying malignancy
   • Many large teaching hospitals such as Royal Prince Alfred will have an outpatient hysteroscopy clinic, which allows direct visualisation of the endometrium and tissue sampling
     o There is also the opportunity for hysteroscopy under general anaesthetic, +/- dilatation & curettage
   • In some inpatient settings, you may be able to call the obstetrics and gynaecology team to arrange a bedside endometrial biopsy with a pipelle

3. Take home messages for junior doctors in regard to post-menopausal PV bleeding
   • Organise speedy and reliable follow-up for your patient
   • If you are caring for an inpatient, you may facilitate the process by organising an inpatient ultrasound and liaising with the gynaecology team
   • Postmenopausal PV bleeding is not a reason in itself to need admission, as long as there is adequate follow-up available with the appropriate team