



Questions for this month's clinical challenge are based on articles in this issue. The style and scope of questions is in keeping with the MCQ of the College Fellowship exam. The quiz is endorsed by the RACGP Quality Assurance and Continuing Professional Development Program and has been allocated 4 CPD points per issue. Answers to this clinical challenge will be published next month, and are available immediately following successful completion online at [www.gplearning.com.au](http://www.gplearning.com.au). Check clinical challenge online for this month's completion date.

**Kate Molinari**

## Single completion items



**DIRECTIONS** Each of the questions or incomplete statements below is followed by five suggested answers or completions. Select the most appropriate statement as your answer.

### Case 1

#### Anna Wilson

Anna Wilson, 32 years of age, is an obese woman with a BMI of 35. She presents with a 4 day history of right calf pain and swelling.

#### Question 1

Which of the following is true about Anna:

- obesity is a strong risk factor for DVT
- if Anna is pregnant, a positive D-dimer assay will be a useful diagnostic test
- 25% of VTE are idiopathic
- plain ultrasonography is the choice for evaluating the lower limbs for DVT
- over 60% of patients presenting with symptoms such as Anna's will have DVT proven on ultrasound.

#### Question 2

Anna scores 1 on the modified Wells DVT prediction score. Which of the following is correct:

- if Anna has a negative D-dimer, no imaging will be required
- you will need to order imaging irrespective of the D-dimer result
- Anna is classed as having high pre-test probability of a DVT
- if Anna's D-dimer is positive, a normal compression ultrasonography will rule out DVT
- D-dimer levels correlate poorly with the size of thrombus.

#### Question 3

An ultrasound confirms a distal DVT in Anna's right calf. Which of the following is correct:

- anticoagulation for 4–6 weeks is generally considered adequate

- warfarin is contraindicated if Anna is pregnant
- if Anna's DVT had been secondary to a fractured leg, this would not change the length of treatment
- warfarin will dissolve Anna's clot and prevent recurrence
- Anna has a 50% chance of developing post-thrombotic syndrome.

#### Question 4

Anna is trying to fall pregnant. She has had two first trimester miscarriages. Which of the following is correct:

- it is appropriate to test Anna for lupus anticoagulant and anticardiolipin antibodies
- the presence of thrombophilia varies greatly with ethnicity
- heritable causes of thrombophilia include factor V Leiden, prothrombin gene mutation and deficiencies of protein C, protein S and antithrombin
- heritable thrombophilia increases the risk of a first VTE but does not increase the risk of recurrence
- all of the above are correct.

### Case 2

#### Charles Wray

Charles Wray, 76 years of age, has been a patient of the practice for many years. He has well controlled hypertension and is on an SSRI for depression. During a recent hospitalisation he was diagnosed with AF.

#### Question 5

Which of the following is correct:

- warfarin has high efficacy in preventing strokes in AF patients (60–70% relative risk reduction)
- Charles' CHADS2 score means he should not be considered for warfarin
- the CHADS2 scoring system will help in determining Charles' warfarin dose
- if he starts on warfarin his target INR will be 2.5–3.5
- He must take warfarin for 7–10 days before an anticoagulant effect is established.

#### Question 6

Charles is interested to learn how warfarin works. Which of the following is INCORRECT:

- VKORC1 is the target enzyme inhibited by warfarin resulting in interruption of the recycling of vitamin K in the liver
- vitamin K is essential for the activation of certain clotting factors (II, VII, IX, X)
- warfarin interferes with the function of protein C and protein S which are naturally occurring anticoagulant proteins
- administration of large doses of exogenous vitamin K reverses the effect of warfarin by displacing it from receptor sites in the liver
- CYP2C9 is responsible for the metabolic clearance of S-warfarin, the more potent isomer of warfarin.

#### Question 7

Charles decides to start on warfarin. Which of the following is correct:

- a past history of falls will be an absolute contraindication for warfarin in Charles
- Charles should continue to take NSAIDs as he has no history of peptic ulceration
- Charles will need to perform daily INR testing while he is on warfarin
- Charles' SSRI medication may have an additional antiplatelet effect
- he should avoid foods containing vitamin K.

### Question 8

Charles has now been on warfarin for over 6 months. Your practice nurse alerts you as Charles' INR today is 5.0. Charles tells you that he has just completed a course of metronidazole (prescribed by a doctor at another practice). Which of the following is correct:

- A. metronidazole interferes directly with the clearance of warfarin by activating cytochrome P450 enzymes
- B. antibiotics may effect bacterial flora in the intestine, thus increasing the amount of vitamin K produced
- C. better educating Charles about medication interactions may have avoided this rise in INR
- D. warfarin potentially interacts with up to 75 drugs
- E. if Charles has been on NSAIDs this could also be contributing to the rise in INR.

### Case 3

#### Jackie Evans

Jackie Evans, 42 years of age, attends your practice infrequently. She has previously been treated for cervical cancer. She presents now with a 2 day history of pleuritic chest pain. You are aware that Jackie underwent a surgical procedure 9 weeks ago.

### Question 9

Which of the following statements is correct:

- A. Jackie is no longer at increased risk for postsurgery pulmonary embolus (PE)
- B. Jackie's OCP (Marvelon) has a lower risk of causing a clot than other OCP types
- C. there is a higher risk of PE if her surgery was in-patient, rather than day stay
- D. if Jackie has recently been on a 12 hour flight, her PE risk is increased twofold
- E. there is a high risk of venous thrombosis in cervical cancer.

### Question 10

You are concerned that Jackie may have a PE. In assessing Jackie's symptoms which of the following is correct:

- A. less than 50% of patients with a PE will present with chest pain
- B. peripheral emboli are less likely to present with pulmonary infarction
- C. as Jackie is not dyspnoeic a PE can be excluded
- D. over 90% of patients with a PE will have dyspnoea

- E. Jackie's pleuritic chest pain is a predictive clinical feature.

### Question 11

You use the simplified Wells PE score to assess the probability that Jackie has a PE.

Which of the following is true:

- A. the Wells score was developed specifically for the primary care setting
- B. if Jackie is classified as 'PE likely' she will not need imaging if she has a negative D-dimer
- C. VQ scanning is widely used in investigating for suspected PE
- D. a negative CTPA will exclude PE in Jackie
- E. VQ scanning is best used in patients with pre-existing lung disease.

### Question 12

Jackie has a CTPA which confirms a PE.

Which of the following statements is INCORRECT regarding her treatment:

- A. Jackie will need to be anticoagulated as this is the mainstay of treatment for PE
- B. Jackie will need initial treatment with a parental anticoagulant such as low molecular weight heparin (LMWH)
- C. LMWH would still be appropriate initial treatment for Jackie if she had significant renal impairment
- D. Jackie is likely to need hospital admission
- E. Jackie will need a minimum of 3 months anticoagulation.

### Case 4

#### Gladys Wilson

Gladys Wilson, 71 years of age, is on warfarin for her AF. She has renal impairment and is on esomeprazole for GORD. You and Gladys are continually frustrated by her unstable INR levels. You do some reading to see if you can learn more about possible causes of this.

### Question 13

Which of the following statements is true regarding the wide inter-individual variability in warfarin dosage requirements:

- A. Gladys' age influences her warfarin dose requirements
- B. algorithms which predict warfarin dose requirements have been validated for use in Australia
- C. variability is solely due to polymorphisms in two genes (VKORC1 and CYP2C9)
- D. CYP2C9 is the target enzyme inhibited by

- warfarin resulting in interruption of the recycling of vitamin K in the liver
- E. VKORC1 is responsible for the metabolic clearance of S-warfarin.

### Question 14

Gladys' INR has been unstable for 6 months. The appropriate management would be:

- A. INR 3.5. Gladys is asymptomatic. Withhold warfarin and restart when INR is in therapeutic range
- B. INR 4.9. Gladys is asymptomatic. Withhold warfarin and restart when INR is in therapeutic range
- C. INR 4.8. Gladys is asymptomatic. Give 2.5 mg oral vitamin K
- D. INR 9.5. Gladys is asymptomatic. Withhold warfarin and restart when INR is in therapeutic range
- E. INR 6.0. Gladys is asymptomatic. Assume she has previously had a bleeding peptic ulceration. Reduce warfarin dose.

### Question 15

Gladys asks if there are any other medications she could take. Which of the following is correct regarding anticoagulants:

- A. the majority of the new anticoagulants are administered parenterally
- B. the two new oral agents (dabigatran and rivaroxaban) are not marketed in Australia for long term anticoagulation
- C. unlike warfarin, regular monitoring of their anticoagulant effect is not required
- D. many of the newer agents are renally cleared, and little is known about dosing recommendations in different degrees of renal failure
- E. all of the above are correct.

### Question 16

Gladys asks about dabigatran. Which of the following is correct:

- A. if Gladys were to begin bleeding, the effects of dabigatran can be quickly and easily reversed
- B. dabigatran has been shown to cause increased hepatotoxicity
- C. there was a small but statistically significant increase in the rate of myocardial infarction when compared with warfarin
- D. Gladys' GORD is unlikely to be aggravated by dabigatran
- E. dabigatran inhibits clotting factor X.

## Answers to June clinical challenge

### Case 1

#### John Moussa

##### 1. Answer D

The chance of recurrence of pilonidal abscess after routine drainage under local anaesthetic is 60%.

##### 2. Answer B

Pilonidal sinus disease is less common in those aged over 40 years. Regarding risk factors for pilonidal sinus disease, being hirsute is a known risk factor, 75% of patients affected are male, and the condition is generally not of congenital origin. Antibiotics will not cure a focused pilonidal abscess.

##### 3. Answer A

Regarding the pit-picking method, gauze can be used to clean out the track once the pit is removed. The procedure is usually a simple day procedure, can be repeated on the same patient if recurrence occurs, with a recurrence rate of about 15%. The wound is closed with a single suture.

##### 4. Answer E

Both procedures involve off-midline (not midline) primary closure and elevation of the natal cleft. The other statements are correct.

### Case 2

#### Stuart McMillan

##### 5. Answer C

Dietary factors that may contribute to pruritis ani include coffee, tea, cola, alcohol, chocolate, tomato, and less commonly milk, peanuts, citrus fruits, grapes, spicy foods, prunes and figs. Shellfish consumption does not generally contribute.

##### 6. Answer B

Inadequate lubrication can cause minor skin trauma leading to anal itch. There is no evidence that consensual anal intercourse causes abnormal anal sphincter function. Anal STIs can cause pruritis. Latex condoms are a possible cause of contact

dermatitis, however condom use is obviously important for STI prevention.

##### 7. Answer D

Erythrasma is a cutaneous infection caused by *Corynebacterium minutissimum*.

##### 8. Answer B

Topical 0.006% capsaicin preparations can be successful in treating intractable pruritis ani. The other treatments have found to be of little, if any, benefit. Vigorous cleaning of the perianal area can worsen symptoms and should be discouraged.

### Case 3

#### Marie DeSouza

##### 9. Answer D

The most likely diagnosis at this stage is internal haemorrhoids, which are common and typically present as bright red blood separate from the faeces, in the toilet/on toilet paper. Rectal cancer or polyps usually present with blood mixed with the faeces. An anal fissure or a perianal haematoma are usually accompanied by pain.

##### 10. Answer D

The average length of the rectum in an adult is 18 cm.

##### 11. Answer C

The appropriate urgent treatment for fourth degree haemorrhoids is surgical haemorrhoidectomy. The other treatments are not appropriate.

##### 12. Answer B

Treatment of an anal fissure can include increased fibre intake and the use of mild laxatives, topical GTN ointment and local anaesthetic gel, and botulinum toxin injection. Sclerosant injections are a treatment option for haemorrhoids, not anal fissures.

### Case 4

#### Janice Wong

##### 13. Answer A

Janice will require prophylactic daily antibiotics for the next 2 years.

##### 14. Answer C

If Janice gets the Pneumovax 23 vaccine today, her next booster pneumococcal vaccines will be due in 5 years and then again at the age of 65 years.

##### 15. Answer D

Janice should start taking the emergency antibiotics if she notices fevers and/or shivers. The other symptoms, on their own, are not reasons to commence antibiotics.

##### 16. Answer B

In patients with asplenia, you expect to find Howell-Jolly bodies and lowered IgM memory B-cell markers on full blood examination and blood film.

correspondence [afp@racgp.org.au](mailto:afp@racgp.org.au)