

QUIZ FEEDBACK

Thrombophilia, CRP, fungal infections

Introduction

This quiz feedback provides an opportunity to revisit Best Tests, March 2011, which focused on; the role of thrombophilia testing in general practice, the collection of specimens when investigating fungal infections, and an update on the role of ESR and CRP when investigating temporal arteritis. All general practitioners who responded to this quiz will receive personalised online feedback and CME points.

1. Which of the following most increases an individual's risk of venous thromboembolism (VTE)?			
		Your peers	Preferred
<input type="checkbox"/>	Major trauma	96%	✓
<input type="checkbox"/>	Varicose veins	8%	
<input type="checkbox"/>	Air travel	12%	
<input type="checkbox"/>	Inherited thrombophilia	22%	

Comment:

The strongest risk factors for VTE are; fracture (hip or leg), hip or knee replacement, major general surgery, major trauma and spinal cord injury. Inherited thrombophilia is considered to be a moderate risk factor, while air travel and varicose veins are weak risk factors. The assessment of risk can help to determine if the event was provoked (i.e. exacerbated by external risk factors), or unprovoked (i.e. occurred for no apparent reason).

2. In which of the following situations is thrombophilia testing indicated?			
		Your peers	Preferred
<input type="checkbox"/>	A person under the age of 40 years, presenting with unprovoked VTE, and no known family history of VTE	72%	
<input type="checkbox"/>	A person on chemotherapy presenting with VTE	6%	
<input type="checkbox"/>	A woman on oral contraceptives, worried about the risk of VTE	3%	
<input type="checkbox"/>	All people presenting with VTE	4%	

N.B. None of the options are correct.

Comment:

Thrombophilia testing should only be performed when the test results will alter management and is therefore only recommended in situations such as:

- A patient presenting with unprovoked venous thrombosis at an early age (<40 years) **with a family history of thrombosis** (more than two other symptomatic first degree family members)
- Children with purpura fulminans
- Pregnant women at risk of venous thrombosis, e.g. pregnant women who have had a previous VTE due to a minor provoking factor

Thrombophilia testing is not indicated in any of the scenarios presented in Question 2. In hindsight this may have caused confusion. In the first option, testing would have been indicated if "a positive family history of thrombosis" was added to the scenario. Malignancy and oestrogen containing oral contraceptives are both

moderate risk factors for VTE but are not considered indications for testing. In addition, testing is not recommended when patients present in the acute phase of a thrombotic event.

3. What is the purpose of the D-dimer test, when investigating a possible deep vein thrombosis (DVT)?		
	Your peers	Preferred
<input type="checkbox"/> An elevated test is a specific marker for DVT	1%	
<input type="checkbox"/> Is a useful test for helping to exclude DVT	86%	✓
<input type="checkbox"/> Is useful for differentiating between a superficial and deep vein thrombosis	2%	
<input type="checkbox"/> Should be used in conjunction with a clinical probability rule for determining referral to ultrasound	73%	✓

Comment:

The D-dimer test can be elevated in nearly all patients with VTE, but can also be elevated in patients with infection, malignancy or recent surgery so is therefore not specific. Its key diagnostic role is as a negative predictor of VTE, i.e. a low level makes VTE an unlikely diagnosis. D-dimer can be used in conjunction with the Wells Rule or the Primary Care Rule to determine the probability of a DVT.

Differentiating between superficial and deep thrombosis is best done with ultrasound.

4. If a patient wants to start the combined oral contraceptive (COC), which of the following are correct?		
	Your peers	Preferred
<input type="checkbox"/> The patient should have thrombophilia testing performed	<1%	
<input type="checkbox"/> Ask about any known inherited thrombophilia	89%	✓
<input type="checkbox"/> Do not prescribe the COC if there is any first degree relative with a history of VTE	47%	+/-
<input type="checkbox"/> COC are a moderate risk factor for VTE	80%	✓

Comment:

The use of oestrogen-containing oral contraceptives is a moderate risk factor for VTE but this is not considered an indication for testing.

It is important to ask about a family history of thrombophilia, to determine if a first degree relative aged less than 45 years has had a VTE. If this is the case, the use of oestrogen-containing oral contraceptives is not recommended unless other methods are unacceptable or not available. For patients with known thrombogenic mutations, oestrogen-containing oral contraceptives should be avoided.

5. Your patient reports a positive family history of VTE (her elderly mother had a DVT following a hip fracture). What is the role of thrombophilia testing in your patient?		
	Your peers	Preferred
<input type="checkbox"/> Testing is indicated	6%	
<input type="checkbox"/> Family members should be tested	1%	
<input type="checkbox"/> She should be advised to avoid long-distance flights	5%	
<input type="checkbox"/> It would be useful to test for just the more common mutations (Factor V Leiden and Prothrombin gene mutations)	32%	

Comment:

As previously discussed, one of the strongest risk factors for VTE is fracture (hip or leg) so in this scenario no testing is indicated for either your patient or for her mother.

Factor V Leiden and Prothrombin gene mutation are considered low risk thrombophilias, and case finding in asymptomatic relatives is not indicated.

6. What next steps are recommended in a person suspected of temporal arteritis with an elevated CRP, but normal ESR?			
		Your peers	Preferred
<input type="checkbox"/>	Repeat ESR	2%	
<input type="checkbox"/>	Repeat CRP	3%	
<input type="checkbox"/>	The ESR and CRP should both be elevated to support diagnosis	<1%	
<input type="checkbox"/>	Biopsy or empirical treatment should be initiated, irrespective of results	98%	✓

Comment:

In most cases, temporal arteritis is characterised by a normal ESR with an elevated CRP, however, although unusual, an elevated ESR and a normal CRP can also be suggestive of temporal arteritis. Traditionally, both ESR and CRP have been used to investigate temporal arteritis, but the role of ESR as a routine test for this has now been questioned. Some consider the additional 1.7% sensitivity that is gained by using both ESR and CRP together, encourages increased use of tests, but for minimal clinical gain. Particularly, as any patient with a strong clinical history should have a temporal artery biopsy or empirical treatment irrespective of the results of laboratory tests.

7. In which of the following scenarios is fungal testing indicated?			
		Your peers	Preferred
<input type="checkbox"/>	In suspected fungal infection of the hair where the diagnosis is uncertain	80%	✓
<input type="checkbox"/>	In all patients with suspected athlete's foot	2%	
<input type="checkbox"/>	To allow targeted treatment	86%	✓
<input type="checkbox"/>	In all patients with thick, crumbly toenails	15%	

Comment:

Most minor fungal infections, e.g. athlete's foot, do not require testing and can be treated topically. Laboratory fungal testing is useful to confirm disease when it is chronic, severe or when considering systemic therapy, and

when the fungal infection involves the hair, palms of the hands or soles of the feet. Sometimes testing can be useful to determine the species of fungus to allow targeted oral treatment.

Thick, crumbly toenails can be the result of various conditions, not just fungal infection. Laboratory testing might not be useful in cases where patients are not willing to take oral antifungal therapy, even if a fungal infection was confirmed.

8. Which of the following may be reasons for a negative fungal result?			
		Your peers	Preferred
<input type="checkbox"/>	Use of antifungal medication prior to collection	98%	✓
<input type="checkbox"/>	Lack of viable fungal elements in a sample	95%	✓
<input type="checkbox"/>	The lesion is a discoid eczema	88%	✓
<input type="checkbox"/>	Cleaning the area with alcohol prior to collection	9%	

Comment:

When collecting specimens for fungal testing, preparation of the skin or nails with an alcohol swab is useful to remove any traces of skin products or medications.

Negative culture results may arise due to a number of problems including; antifungal treatment used prior to collection of the specimen, the presence of non-viable hyphae elements (as can occur in the distal region of a nail) and an incorrect clinical diagnosis, such as the skin condition actually being a skin cancer or form of eczema.

