Proposed changes to inherited Thrombophilia Testing in WDHB

SUMMARY OF CHANGES

From 1st of February 2018 hereditary thrombophilia testing at Waitemata District Health Board will undergo major changes. These changes are driven by the Ministry of Health choosing wisely campaign.

Background

It is increasingly recognised that blood tests are only of value if they result in improved outcomes for patients and the magnitude of benefit outweighs the harms, burden and cost of testing.

Thrombophilia testing can result in harm to patients if the duration of anticoagulation is inappropriately prolonged or shortened, if patients are falsely reassured due to negative results, or unnecessarily treated because they were incorrectly labelled as genetically predisposed to thrombosis.

Furthermore, given its prohibitively high cost; adequate rationing needs to be given before ordering thrombophilia screen.

The MOH encourages that thrombophilia testing in adult patients under the age of 50 years is not carried out unless the first episode of venous thromboembolism (VTE):

• *occurs in the absence of a major transient risk factors (surgery, trauma, immobility), or*

• *occurs in the absence of oestrogen-provocation, or*

• *occurs at an unusual site.*

Therefore thrombophilia testing at WDHB will only be performed in the following clinical situations:

- Idiopathic venous thromboembolism in young patients (<45 years)
- Warfarin-induced skin necrosis (should be tested for Protein C and Protein S deficiency one month after stopping vitamin K antagonist therapy if this can safely be discontinued.)
- Children presenting with purpura fulminans (should be tested urgently for Protein C and Protein S deficiency).
- Siblings of patients with AT deficiency, homozygous FVL, homozygous PT20210A or compound heterozygotes for these mutations
- Thrombosis at an unusual site (e.g. cerebral, mesenteric, portal).

In all situations testing will only be undertaken after discussion with the on call Haematologist or thrombosis nurse specialist. If testing is deemed appropriate, you will be provided with a specific code. Unless this code is provided on E-phlebotomy ordering, unfortunately testing will not be able to be proceeded.

If writing paper laboratory request form, clinical indications for thrombophilia testing need to be specified (from the criteria listed above) or the sample will not be tested.

Wherever possible, thrombophilia testing should be avoided in the following settings as one or more of the laboratory tests may give misleading results:

- Patients on hormone replacement therapy (oestrogen)
- Acute thrombosis
- During warfarin or other vitamin K antagonist therapy
- During unfractionated or low molecular weight heparin therapy
- During pregnancy and for 8 weeks post-partum

Situations where testing is NOT indicated:

- Recurrent venous thromboembolism
- Recurrent venous thromboembolism despite adequate therapeutic anticoagulation
- Venous thromboembolism in the context of a strong family history of unprovoked venous thromboembolism in a first degree relative
- Venous thromboembolism in association with a history of thrombophlebitis
- Unselected patients with upper limb venous thromboembolism
- Patients with central venous catheter-related thrombosis
- Patients with retinal vein thrombosis
- Patients with arterial thrombosis (Lupus testing is indicated in this setting)
- Patients with recurrent miscarriage, recurrent pregnancy loss or other pregnancy complications such as pre-eclampsia, placental abruption or intrauterine growth restriction (Antiphospholipid antibody testing alone is indicated in this setting, as this is the only setting in which there is an effective intervention).
- Prior to use of combined oral contraceptives in patients with a family history of VTE (Current British guidelines recommend avoidance of the combined oral contraceptive pill in women with a history of VTE in a first degree relative regardless of the thrombophilia results)
- In unselected women considering the use of the combined oral contraceptive pill
- In asymptomatic women before assisted conception and those with ovarian hyperstimulation syndrome
- Case finding of asymptomatic relatives with low risk thrombophilia such as Factor V Leiden (FVL)and Prothrombin G20210A mutation (PT20210A)
- In hospitalized patients to identify patients at risk of hospital-acquired venous thrombosis
- Children who present with stroke

Please note that:

- Testing for antiphospholipid antibodies such as Lupus anticoagulant, IgG anticardiolipin antibodies and beta glycoprotein antibodies is more likely to be informative in cases of arterial thrombosis or in women with pregnancy complications such as pre-eclampsia, placental abruption or intrauterine growth restriction.
- Women should be assessed for risk of pregnancy-associated venous thrombosis primarily in relation to clinical risk factors rather than the presence or absence of heritable thrombophilia
- If a first-degree relative with venous thrombosis has been tested and the result is negative then it is suggested that a woman considers an alternative contraceptive or transdermal HRT. Testing for heritable thrombophilia will provide an uncertain estimate of risk and is not recommended. An exception to this rule is antithrombin deficiency, where a positive result will result is important in antepartum and post-partum VTE prophylaxis advice. If a first-degree relative with venous thrombosis has been tested and the result is positive then it is suggested that women consider an alternative contraceptive or transdermal HRT before offering testing, as a negative test result does not exclude an increased risk of venous thrombosis.
- Testing for heritable thrombophilia may assist counselling of selected women, particularly if a high risk thrombophilia has been identified in the symptomatic relative
- All hospitalised patients should be assessed for risk of venous thrombosis regardless of heritable thrombophilia based on a clinical risk assessment.

Requesting an inherited thrombophilia panel from 1st of January 2018

The tests comprising an inherited thrombophilia screen will be:

- Antithrombin III
- Protein S and C
- APC resistance

Patient counselling

Testing for heritable thrombophilia may reveal the presence of a genetically determined disorder and patients should be counselled appropriately before testing is performed.
Patients should also be advised that testing for heritable thrombophilia may affect their insurance risk and that their access to insurance policies may be changed, regardless of the result of the test result.

Genetic Testing

Index case sequencing (if initial testing has been negative) should only occur at the request of a haematologist.
Where low levels of antithrombin III, protein C or S are found, a repeat sample should be requested to confirm the abnormal finding.

Patients will only be tested for FVL and prothrombin gene mutation once in their lifetime.

Conclusion

We are progressing the Ministry of Health "Choose Wisely" campaign in WDHB. It is hoped that by adopting these new criteria for testing for inherited thrombophilia that the rate of inappropriate testing will be significantly reduced. This should bring the practice in the Waitemata region in line with other DHBs of New Zealand that have already adopted these guidelines.

Please contact the haematology laboratory at North Shore Hospital for more information if required.

References

1) http://onlinelibrary.wiley.com/doi/10.1111/j.1365-2141.2009.08022.x/full. Baglin T el at. Clinical Guidelines for testing for heritable thrombophilia. British Journal of Haematology 2010;149:209-220.
2) http://www.bpac.org.nz/Series/schedule-guidelines.aspx
3) http://centraltas.co.nz/planning-and-collaboration/planning-and-improvement-2/national-programmes/

Kind regards,

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