Liverpool University Hospitals
NHS Foundation Trust

Patient information

Prothrombin 20210

Haematology Liverpool

Prothrombin 20210 is a blood clotting disorder which causes your body to produce too much of a protein called Prothrombin, making your blood more likely to clot.

Also referred to as:

- Prothrombin Gene Mutation.
- Factor II mutation.
- Prothrombin 20210A.

Prothrombin 20210 and Clotting

If you have an injury, your body forms a plug (clot) to stop blood from leaking through damaged blood vessels, therefore stopping bleeding. This blood clot is formed from platelets together with a protein called 'Fibrin'. Prothrombin is a blood clotting protein that is needed in order to form Fibrin.

If you have a mutation of the prothrombin gene, this will result in increased Fibrin production and your blood will be more likely to clot. Venous thrombosis is a term for when clots develop in the leg (known as a deep vein thrombosis) or in the lung (known as a pulmonary embolism) which can be serious.

How did I get the Prothrombin 20210?

Everyone inherits two copies of the prothrombin gene, one copy from your mother and one from your father. If one/both parents have a faulty copy of the gene, you have a chance of inheriting this copy from them. There are two types of prothrombin gene mutation.

- **Heterozygous**- you have inherited one copy of the prothrombin gene mutation from one parent, and one normal copy of the gene from the other parent.
- **Homozygous**- You have inherited two copies of the prothrombin gene mutation, one from each parent. This type is much rarer.

Testing and Diagnosis

The diagnosis of Prothrombin gene mutation is usually made through a simple blood test, usually referred to as a 'thrombophilia screen'. This blood sample will be sent to the laboratory and the specific genes will be examined to look for any abnormalities. If you do have a mutation of one or both copies of the Prothrombin gene, you will be offered the opportunity to discuss this with your Haematology team.

What can I do to reduce my risk of clots?

Prothrombin gene mutation is present in two in 100 people of European origin. This risk of venous thrombosis is approximately twice that of someone without the condition. However, this VTE risk is still relatively low unless you have one or more extra risk factors. The majority of people with this condition will never develop a clot.

You can reduce your risk of thrombosis by being mindful of the following.

- Lead a physically active life.
- Eat a healthy diet.
- Stay within healthy weight limits.
- Do not smoke.
- Avoid long periods of immobility.
- Seek advice before major surgery or when you are likely to be immobile for long periods.

Women with Prothrombin 20210 should also seek advice before:

- Becoming pregnant.
- Taking the oral contraceptive pill.
- Starting hormone replacement therapy.

Can the Prothrombin Gene Mutation be treated?

No treatment can be given to prevent the prothrombin gene mutation or to remove the faulty gene. The main aim is to prevent/treat any blood clots that may occur.
If you are diagnosed with a blood clot, you will usually be treated with a type of medication called an anticoagulant (sometimes known as 'blood thinners'). If you have never had a blood clot, you do not need to take anticoagulants.

How will I know if I have a blood clot?

Be extra vigilant for any of the main signs and symptoms listed below. If you have any suspicion of a clot, you must urgently contact your GP or attend A&E.

Signs of DVT:

- Pain/tenderness in your limb.
- Swelling in your arm or leg.
- Redness/warmth on your arm or leg.

Signs of PE:

- Shortness of breath.
- Chest pain.
- Coughing up blood.
- Passing out.

Frequently asked questions

Will I always have this condition?

You will have the Prothrombin 20210 for life since it is a part of your genetic makeup.

Can I donate blood if I have the prothrombin gene mutation?

Having the prothrombin 20210 is not a reason to avoid donating blood, but you shouldn't donate blood if you are taking anticoagulation medication

Should my family members be tested if I have Prothrombin Gene Mutation?

Since Prothrombin 20210 tends to run in families, we would recommend that other members of the immediate family be tested. However, we wouldn't recommend testing children until they are old enough to decide for themselves.

Feedback

Your feedback is important to us and helps us influence care in the future.

Following your discharge from hospital or attendance at your outpatient appointment you will receive a text asking if you would recommend our service to others. Please take the time to text back, you will not be charged for the text and can opt out at any point. Your co-operation is greatly appreciated.

Further information

Haematology Liverpool Patient Line
Tel: 0151 706 3397
Text phone number: 18001 0151 706 3397

External Website

https://thrombosisuk.org/downloads/thrombosisuk-inherited-thrombophilia.pdf

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All Trust approved information is available on request in alternative formats, including other languages, easy read, large print, audio, Braille, moon and electronically.

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