Protein C Deficiency

What is protein C?
This is the name given to one of the natural anticoagulants found in the blood.

Why is protein C important?
If there is not enough protein C in the blood or it does not work properly then clots may be more likely to form in the veins causing deep vein thrombosis or pulmonary embolism. As far as we can tell the present risk of clots forming in arteries, causing heart attack or stroke, is not increased.

How does this deficiency of protein C come about?
Usually by inheritance from your mother or father. Your doctor will exclude other causes before deciding that you have an inherited deficiency. The diagnosis is definite if more than one member of a family is shown to have low levels of protein C.

When is thrombosis in the veins likely to occur?
It can occur at any time although it is rare in childhood. The degree of risk increases with age.

What is the risk of thrombosis with protein C deficiency?
There is an increased risk of thrombosis in the veins in individuals with protein C deficiency. However, the level of risk is also dependent on whether or not there are additional risk factors present.

Factors which increase the risk include:
- Being overweight
- Smoking
- Prolonged immobilisation
- Having an operation
- After an accident
- The combined oral contraceptive pill
- Pregnancy
- Hormone replacement therapy
- Severe illness such as cancer
- Presence of other inherited causes of clotting tendency
Pregnancy
There is growing evidence that protein C deficiency can be associated with obstetric complications such as recurrent miscarriage or stillbirth. Your doctor will advise you about this and be able to discuss possible treatments.

Having found out that I have protein C deficiency, what should I do?
The first thing to say is you should not see yourself as ill or “abnormal”. Your thrombotic tendency may not cause you any problems at all but you can take steps to reduce your risk factors such as:

- Lead a physically active life
- Eat a healthy diet and avoid becoming overweight
- Avoid smoking
- Avoid prolonged immobility during long journeys
- Take advice from your doctor if you are planning a long flight (e.g. 8 hours).
- Avoid certain types of contraceptive pill
- Take advice before starting hormone replacement therapy
- Liaising with your doctor if you are entering a high risk period for thrombosis such as major surgery, immobility or pregnancy. Your doctor will advise you if you need specialist hosiery or medication.

Should other members of my family be tested?
Guidelines recommend that testing for heritable thrombophilia is not indicated in unselected patients presenting with venous thrombosis. Testing of selected patients may be helpful in long term management

If you have any questions about the information in this leaflet, please contact:

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For further assistance or to receive this information in a different format, please contact the department which created this leaflet.