

53. Blood type and factor V Leiden

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Q1: I was wondering if FVL affects all blood types or if it only affects certain ones?

A1: Factor V Leiden is not associated with any specific blood types and occurs equally in all blood types.

Q2: Do women have factor V Leiden more often than men?

A2: Factor V Leiden has nothing to do with gender and occurs equally in females and males.

Q3: I have factor V Leiden and blood type A. Is it true that I am at particularly high risk for blood clots (DVT and PE)?

A3: Yes, preliminary data (see reference below) suggest that people with blood types A, B, and AB have a higher risk for DVT/PE than people with blood type O, and that having factor V Leiden at the same time increases the risk for clots even further.

The known thrombophilias (such as FVLeiden, prothrombin 20210 mutation, deficiency of protein C, S and ATIII, etc) occur equally in all blood types and both genders. They inherited separately from blood types.

However, to have blood types A, B, or AB puts a person at higher risk for deep vein thrombosis (DVT) or pulmonary embolism (PE) than to have blood type O. The people with blood types A, B, or AB have about double the risk for DVT and PE than people with blood type O. This is probably mostly due to people with blood type A, B and AB having higher factor VIII levels than people with blood type O; and high factor VIII levels are a known risk factor for DVT and PE.

It is well known that the risk for DVT/PE goes up quite a bit if 2 or more thrombosis risk factors are present together: this is true for (a) people who have heterozygous factor V Leiden and take the birth control pill, as well as (b) people who have blood type A, B, or AB and factor V Leiden

References:

Morelli VM, de Visser MCH, Eikenboom HCJ, Bertina RM, Rosendaal FR: ABO blood group genotypes and the risk of venous thrombosis: effect of factor V Leiden. ISTH 2005, abstract 2071