

REVIEW

Elevated Plasma Factor VIII Levels – a Novel Risk Factor for Venous Thromboembolism

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SUMMARY

An association between elevated plasma levels of FVIII:C and arterial thrombosis was first described 20 years ago. More recently a growing literature has centered on the potential role for elevated FVIII:C in venous thromboembolic disease. 25% of patients have plasma FVIII:C levels greater than 1500 IU/l six months following venous thrombosis. This increased FVIII:C appears unrelated to any ongoing acute phase reaction, and reflects a true increase in circulating FVIII protein. Furthermore the increase in FVIII:C is sustained in the vast majority of subjects for years following the thrombotic episode. Multivariate analysis of the Leiden thrombophilia study has demonstrated that increased FVIII is an independent risk factor for venous thromboembolism. Individuals with FVIII:C exceeding 1500 IU/l had a six-fold increased risk, compared to those with FVIII:C levels less than 1000 IU/l. Also, prospective follow-up has shown that patients with high FVIII:C levels are at increased risk for episodes of recurrent venous thrombosis. These findings support the theory that increased plasma levels of FVIII:C represent a constitutional prothrombotic tendency. However the mechanism underlying the elevation in FVIII remains unknown. (Clin. Lab. 2001;47:1-6)