

## Thrombophilia in Pregnancy

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### Abstract

**Introduction:** Thrombophilia refers to disorders which are associated with a persistent hypercoagulable state and a tendency towards thrombosis. They may be inherited, acquired or complex, when genetic factors interact with environmental influences. The objective was to review the various inherited thrombophilias and the antiphospholipid syndrome in relation to pregnancy-related venous thromboembolism and other obstetric complications. **Methods:** A Medline search for articles highlighting thrombophilia and pregnancy-related venous thromboembolism and obstetric complications (pre-eclampsia, recurrent miscarriage, intrauterine growth restriction and placental abruption) was performed. **Results:** The incidence of venous thromboembolism in pregnant Chinese women is similar to that which is reported for Caucasian women. Venous thromboembolism remains a major cause of maternal mortality worldwide as well as locally, where it ranks as the second commonest cause of maternal deaths (rate of maternal deaths from thromboembolism, 0.12 per 10,000 live births and stillbirths). The major risk factors for thrombosis during pregnancy include thrombophilia, operative delivery, advanced maternal age, obesity and pre-eclampsia; these can be identified in about 70% of women who develop the complication during pregnancy and the puerperium. Due to the higher prevalence of factor V Leiden and prothrombin gene G20210A mutation in the Caucasian population, up to 50% of Caucasian women who develop thrombosis during pregnancy or the puerperium test positive for thrombophilia. Recent studies have also shown an association between thrombophilia and adverse obstetric outcomes such as recurrent miscarriage, intrauterine growth restriction, pre-eclampsia and placental abruption. **Conclusion:** Venous thromboembolism is now recognised as a multicausal and multigenic condition. This is particularly evident in pregnancy where multiple risk factors interact and are often identified in women who develop venous thrombosis. With the discovery of factor V Leiden and the prothrombin gene G20210A mutation, inherited thrombophilia can now be detected in a significant proportion of Caucasians who develop venous thromboembolism; however, both these mutations are rarely found in Asians. Identifying women at risk for venous thromboembolism and instituting thromboprophylaxis appropriate to the level of risk remains the key to reducing morbidity and mortality from the condition. Additional research into the intensity, type and duration of thromboprophylaxis for different levels of risk are required. The role of inherited thrombophilia in the pathogenesis of obstetric complications needs to be further defined before screening can be recommended for indications other than venous thromboembolism.

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**Key words:** Intrauterine growth restriction, Placental abruption, Pre-eclampsia, Recurrent miscarriage, Thromboprophylaxis, Venous thromboembolism

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