

Doctor, I have a blood clotting disorder that runs in my family. Do I need an anticoagulant during pregnancy?

Study highlights

Women with thrombophilia who injected small doses of low molecular weight heparin (Fragmin© 5000 IU) during pregnancy did not have a lower risk of DVT, PE or placenta complications, and they did have a higher risk of minor bleeding.

Small doses of low molecular weight heparin (Fragmin©) given during pregnancy do not reduce the risk of DVT, PE, pregnancy loss or placenta complications in pregnant women with known blood clotting disorders (thrombophilia). However, it is important to note that this study did not include women with recurrent pregnancy losses due to antiphospholipid antibody syndrome or women with a prior unexplained DVT or PE.



What's the issue?

Understanding the problem

People with thrombophilia have an increased risk of developing DVT or PE. Also, some pregnancy complications (i.e., pre-eclampsia, small-for-gestational-age infant, placental abruption or pregnancy loss) are more common in women with thrombophilia. These complications are thought to be caused by blood clots in very small blood vessels within the placenta.

The link between thrombophilia, DVT, PE and placenta complications has led to the question of whether women with thrombophilia would have fewer complications during pregnancy if they took anticoagulants to prevent their blood from clotting so easily.

This study was performed to determine if small doses of low molecular weight heparin injected during pregnancy reduces the risk of recurrent DVT, PE and placenta complications in pregnant women with known thrombophilia.



The study

Who? The study included 292 pregnant women (average age 32 years) who had thrombophilia confirmed by a blood test and were at high-risk of DVT, PE or placenta complications because they had (1) a past history of DVT or PE OR (2) a past history of pre-eclampsia, unexplained small-for-gestational-age infant, placental abruption or pregnancy loss OR (3) a first-degree relative with a history of DVT or PE.

Thrombophilias were identified using blood tests. They included Factor V Leiden mutation, Prothrombin gene mutation, Protein C deficiency, Protein S deficiency, Antithrombin deficiency, or Antiphospholipid antibody. Women with a history of recurrent pregnancy losses in the setting of Antiphospholipid antibody syndrome or with a prior unprovoked DVT or PE were excluded.

What? The study compared the risk of DVT, PE and placenta complications in pregnant women who injected small doses of low molecular weight heparin (Fragmin©) during pregnancy with those who did not.

Fragmin©	vs	No Treatment
Fragmin© 5000 IU once daily by subcutaneous injection until 20 weeks <u>gestational age</u> followed by 5000 IU twice daily from 20 weeks until at least 37 weeks <u>gestational age</u> . Injections were started at an average of 12 weeks <u>gestational age</u> .		No treatment



Summary of findings

Fragmin© 5000 IU injections versus no treatment in pregnant women with thrombophilia

Outcomes at 6 weeks after delivery	Rate of events with Fragmin©	Rate of events with no treatment	Results
Symptomatic <u>DVT</u> or <u>PE</u> OR severe/early <u>pre-eclampsia</u> OR small-for-gestational age-infant OR pregnancy loss	17 out of 100 women	19 out of 100 women	No difference*
<u>Major bleeding</u>	2 out of 100 women	1 out of 100 women	No difference*
Minor bleeding	20 out of 100 women	9 out of 100 women	About 11 more women out of 100 had minor bleeding while injecting Fragmin©

*Although the rates for the 2 groups look different, the differences were not statistically significant—this means that the difference could simply be due to chance rather than due to the different treatments.

This Evidence Summary is based on the following article:

Rodger MA, Hague WM, Kingdom J, et al. **Antepartum dalteparin versus no antepartum dalteparin for the prevention of pregnancy complications in pregnant women with thrombophilia (TIPPS): a multinational open-label randomised trial.** *Lancet.* 2014 Nov 8;384(9955):1673-83. doi: 10.1016/S0140-6736(14)60793-5. Epub 2014 Jul 24. PubMed (<https://www.ncbi.nlm.nih.gov/pubmed/25066248?dopt=Abstract>)

