Anti factor-Xa levels and pregnancy outocmes in women with poor obstetric history

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Objective

Low molecular weight heparin (LMWH) is used during pregnancy in women with diagnosed thrombophilia for prevention of thromboembolic events and of recurrent pregnancy loss. LMWH dosing is generally dosed based on weight and in pregnant women weight-based dosing might not consistently achieve target anti-factor Xa (anti FXa) levels. LMWH dosage adjustment can be done by monitoring anti-FXa levels with targeted levels of 0.2-0.6 IU/ml. However there is not a certain consensus on optimal dosage and its effect on pregnancy outcomes. The aim of this study is to examine whether anti-FXa levels have an influence on pregnancy outcomes. This is the first study evaluating anti-FXa levels in pregnancies with previous adverse outcome.

Methods

This study was conducted in Zekai Tahir Burak Women's Health Care Training and Research Hospital, Ankara, Turkey. Eighty-one women with history of recurrent pregnancy loss and thrombophilia who were treated with LMWH during current pregnancy were enrolled. Anti-FXa levels after 3-4 hours of injection and fetal and maternal outcomes were recorded.

Results

Mean age of women were 28 ± 4 (19-40), mean anti-FXa level was 0.44 ± 0.93 IU/ml. No bleeding or clotting complications were associated with LMWH administration. Anti-FXa levels did not have a relationship with gestational age at birth, fetal weight, type of delivery, cesarean indications, postpartum bleeding, APGAR scores and admission to neonatal intensive care unit ($p>0.005$). Our primary outcome was live birth and binary logistic regression analysis showed that anti-FXa levels has no correlation in terms of live birth.

Conclusion

We found that anti-FXa levels do not influence pregnancy and fetal outcomes. Anti-FXa levels should not cause concerns on feto-maternal health during LMWH dosage adjustment. Our study suggests a possibility that the positive effect of LMWH on pregnancy outcome is not due to anticoagulant activity is rather due to anti-inflammatory effect. However, anti-Xa levels may not necessarily provide an accurate measure of coagulation inhibition during pregnancy.