

# **LMWH in the prevention of preeclampsia and fetal growth restriction in women without thrombophilia. A systematic review and meta-analysis.**

## **Abstract**

Placental mediated pregnancy complications such as preeclampsia and fetal growth restriction (FGR) are common, serious, and associated with increased morbidity and mortality. We conducted a systematic review and meta-analysis to determine the effect of treatment with low-molecular-weight heparins (LMWHs) for secondary prevention of these complications in non thrombophilic women. We searched the electronic databases PubMed, Scopus, and Cochrane Library for randomised controlled trials addressing this question. Five studies including 403 patients met the inclusion criteria, 68 developed preeclampsia and 118 FGR. The studies were very heterogeneous in terms of inclusion criteria, LMWH preparation, and dosage. Meta-analyses were performed using random-effect models. The overall use of LMWHs was associated with a risk reduction for preeclampsia (Relative risk (RR) 0.366; 95 % confidence interval (CI), 0.219-0.614) and FGR (RR 0.409; 95 % CI, 0.195-0.932) vs. no treatment. From the data available for analysis it appears that the use of Dalteparin is associated with a risk reduction for preeclampsia ( $p=0.002$ ) and FGR ( $p<0.001$ ); while Enoxaparin is associated with risk reduction for preeclampsia ( $p=0.013$ ) but not for FGR ( $p=0.3$ ). In spite of the small number of studies addressing the research question, and the high variability among them; our meta-analysis found a modest beneficial effect of LMWH for secondary prevention of preeclampsia and FGR. Further studies are needed to address these questions before a definite conclusion can be reached.