

Does chronic Low Molecular Weight Heparins use during pregnancy increase the risk of postpartum hemorrhage?

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Objective. To investigate the risk of postpartum hemorrhage (PPH) associated with chronic prophylactic or therapeutic use of Low-molecular-weight heparins (LMWH) during pregnancy. **Materials and Methods.** A cohort retrospective study. 822 patients (LMWH group n = 411, control group n = 411) were enrolled between 2020-2022. Singleton pregnancies supplemented with LMWH, started within the first 24 weeks, proceeded until term, and suspended at least 24 hours before delivery, were included in the cohort group. Confounders were controlled by matching and logistic regression analysis. Data regarding delivery were collected retrospectively. The causes of PPH were classified using the 4 “T’s” formula.

Results. 71 cases of PPH were documented in the LMWH group (17.27%) versus 46 in the control group (11.1%), with relative risk (RR) of 1.5435 (p = 0.0136). Severe PPH incidence was also significantly increased in the LMWH group (8.76% versus 4.87%) with RR of 1.8 (p = 0.0295). The prevalence of uterine atony was significantly higher in the LMWH group (73.24% versus 56.52%, p = 0.0026). The interval between the

last dose of LMWH and delivery did not seem to influence the haemorrhagic risk.

Conclusions. LMWH chronic use during pregnancy carries an increased risk of PPH, severe PPH and uterine atony. Clinicians should balance and carefully assess the competing risks versus potential benefits before initiating chronic therapy in pregnant patients. Once prescribed, LMWH treatment should be considered a risk factor and active management of the third stage of labor should be promoted, even if the drug is suspended 24 hours prior to delivery.

Results	LMWH group (N 411)	Control Group (N 411)	Relative Risk (95% CI)	P value
Postpartum Blood lose (ml)*	300 (200, 500)	300 (200, 600)		
Postpartum hemorrhage	71 (17.27%)	46 (11.19%)	1.5435 (1.093-2.179)	0.0136
Vaginal deliveries	50/240	38/240		
Elective Cesarean Section	12/124	6/124		
Urgent Cesarean Section	9/87	2/47		
Severe postpartum hemorrhage	36 (8.76%)	20 (4.87%)	1.800 (1.060-3.056)	0.0295
Uterine atony	52/411	26/411	2.000 (1.275-3.138)	0.0026
Blood transfusion	5/411	1/411	5.000 (0.587-42.612)	0.141
PPH etiology: Tonic	52/71 (73.24%)	26/46 (56.52%)		
Tissue	11/71 (15.49%)	12/46 (26.09%)		
Trauma	7/71 (9.86%)	8/46 (17.39%)		
Unknown	1/71 (1.40%)	-		

*Data are expressed as median (1st, 3rd IQR)