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IM - COMMENTARY

Can we program VTE prevention in pregnancy?

Ron Hoffman · Benjamin Brenner

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Venous thromboembolism (VTE) is a leading cause of morbidity and mortality in women of fertile age [1, 2]. The incidence of obstetric VTE in the Western world is estimated at 1:800–1,000 pregnancies, half of them being diagnosed during puerperium, although the risk of VTE is spread over all three trimesters [3].

The risk factors for VTE development in pregnancy and puerperium include: obesity, personal and family history of VTE, parity, thrombophilia and others. Low molecular weight heparin (LMWH) is the drug of choice used for thromboprophylaxis, which may lead to a decrease in VTE incidence [4]. Risk assessment tools become crucial in helping treating physicians to address the vital and challenging questions related to the management of VTE in medical and surgical patients.

During pregnancy and the postpartum period, the need for thromboprophylaxis should be determined using the risk scoring approach, but prospective randomized studies examining this issue are still not available. Hence, nowadays, decision-making regarding the appropriateness of thromboprophylaxis is based on case–control studies and expert opinion only. The major questions during gestation are: who is the right patient for therapy, when to start thromboprophylaxis, what kind of prophylaxis is preferable, and at what dosage?

The article by Testa et al. [5] reports on a cohort study designed to assess whether the stratification of pregnant women into different risk categories based on the VTE risk score would translate into a lower rate of VTE than that observed in the general population. For this purpose, the pregnancy health care program (PHP) was launched at the hospital of Cremona, Italy aiming to tailor thromboprophylactic regimens for pregnant women according to this score. The risk model included known risk factors for pregnancy-related VTE converted into a severity score ranging between 0.5 and 3. Based on the scoring results, women were divided into three categories (I–III) and the thromboprophylaxis regimen was decided upon. The regimens included observation alone, mechanical means or LMWH.

One thousand seven hundred and eighty-seven pregnant women entered the PHP, 70 % were in risk category I and 5 % in category III. No VTE episodes were recorded in the study participants, which is four times lower than in the general population. This program was designed 7 years ago when only one VTE scoring system was available.

Meanwhile, a number of attempts have been made to develop risk scoring systems for the evaluation of pregnant women [6–9]. Nearly all of them are based on major risk factors defining women at high risk for thrombotic events or gestational vascular complications.

The PHP is an essential and timely effort to improve the outcome of pregnant women from different VTE risk categories, allowing tailoring modes of thromboprophylaxis. As stated by the authors, the study has several limitations, the most important of which is the lack of a control group. Nevertheless, this article contributes to the paucity of data regarding VTE management in pregnancy.

Randomized controlled studies are warranted to develop the optimal risk scoring system allowing personalized management of pregnant women at VTE risk.

R. Hoffman · B. Brenner (✉)
Department of Hematology and Bone Marrow Transplantation, Rambam Health Care Campus, P.O. Box 9602, Haifa 31096, Israel
e-mail: b_brenner@rambam.health.gov.il

R. Hoffman
e-mail: r_hoffman@rambam.health.gov.il

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