PREVALENCE OF VENOUS THROMBOEMBOLISM RISK FACTORS AMONG ALEXANDRIA OBESTETRIC WOMEN SAMPLE USING STANDARD SCORING SYSTEM

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INTRODUCTION

Obstetric Venous Thromboembolism (VTE) is a leading cause of maternal morbidity and mortality in the developed world, occurring in approximately 1-2 per 1,000 maternities.

The mechanisms of venous thrombosis were described by Virchow, and describe three etiopathogenic components: venous stasis, hypercoagulability and tissue damage. Pregnant women have all components of Virchow's triad. Venous stasis is secondary to physiological vasodilatation and compression of the vena cava and left common iliac vein by the gravid uterus.

Pregnancy is a physiological hypercoagulable state secondary to the increase of clotting factor concentrations, inhibition of fibrinolysis and a reduction in anticoagulant agent levels. Finally, tissue damage occurs with endothelial damage to the pelvic vessels during delivery.

AIM OF THE WORK

The aim of the study was to assess prevalence of risk factors for venous thromboembolism (VTE) among a sample of obstetric women in Alexandria Governorate Using a standard scoring system.

PATIENTS AND METHODS

This study included 400 pregnant women. They were selected randomly from those attending antenatal clinic at El-Shatby University Hospital during the period of the field work from September 2022 to June 2023 using systematic random sampling technique. Every third woman fulfilling inclusion criteria was included after obtaining her consent.

Inclusion criteria:

Pregnant women in late trimesters, their age ranged from eighteen up to forty years old (18-40).

Exclusion criteria:

Women with established DVT, who have any hematologic disorders and those who had immune system disorders. Women who have relative contraindication for pharmacologic prophylaxis like severe thrombocytopenia, coagulopathy, renal failure were excluded from the study.

Study design: The study was a cross-sectional study. All pregnant women were interviewed using a questionnaire which include the following items:

a) History taking

1-Personal history including age, residence and Smoking.

2-Obstetric history: e.g. gravidity and parity, history of multiple pregnancy, mode of previous deliveries, history of preeclampsia…

3-History of previous operations and chronic co-morbidities

Physical examination: weight, height, lower limb edema, blood pressure, varicose vein

Record review (Antenatal record): For laboratory investigation during the current pregnancy: Complete blood count, liver enzymes and coagulation profile. (CBC, PT, PTT, INR, BT. CT…)

Data analysis: According to Royal College of Obstetrics and Gynecology:

The total risk score for each pregnant woman was calculated by assigning one point for having each risk factor in the scoring system and the total score was calculated as the sum or risk factors.

Pregnant women had any previous VTE except a single event related to major surgery were classified as high-risk group.

Pregnant women with anyone with the second group (Hospital admission – single previous VTE related to major surgery – High risk thrombophilia + no VTE – Medical comorbidities – Any surgical procedure e.g. appendicectomy) were classified as intermediate risk group.

For women who were not classified as high or intermediate risk were classified into low or high risk based on the number of risk factor in this group (Obesity – age – smoking…etc.), those with < 3 risk factors were classified as lower risk.

RESULTS

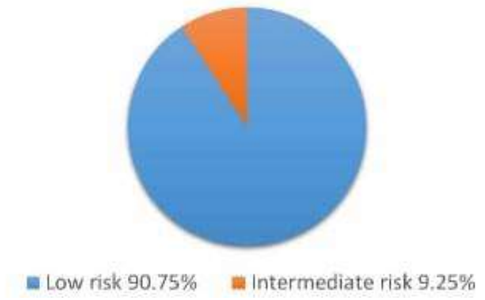

Figure 1 shows that no one of studied pregnant women had high risk for VTE, less than one tenth [9.25%] had intermediate risk and the majority [90.75%] of the studied pregnant women had low risk.

Table (1) shows that most prevalence risk factor was obesity as 55% of the studied females were obese, followed by age >35 years (11%), less that one tenth (8.8%) had gross varicose veins and current pre-eclampsia (8.5%).

Table 1: Distribution of the studied pregnant women according to the prevalence of venous thromboembolism risk factors

Antenatal assessment and management	No.	%	Risk group
Risk factors			High risk group
Any previous VTE except a single event related to major surgery	0	0.0	
Hospital admission	3	0.8	Intermediate risk
Single previous VTE related to major surgery	0	0.0	
High risk thrombophilia + no VTE	0	0.0	
Medical comorbidities	4	1.0	
Any surgical procedure (appendicectomy)	1	0.3	
OHSS (first trimester only)	0	0.0	
Obesity (BMI > 30 kg/m)	220	55.0	Fewer than three risk factors ⬇ Lower risk
Age (>35 year)	44	11.0	
Parity (>3)	24	6.6	
Smoker	0	0.0	
Gross varicose veins	35	8.8	
Current Pre-eclampsia	34	8.5	
Immobility	0	0.0	
Family history of unprovoked or estrogen provoked VTE in first degree relative	0	0.0	
Low-risk thrombophilia	2	0.5	
Multiple pregnancy	11	2.8	
IVF/ART (Assisted reproductive technique – invitro-fertilization)	1	0.3	
Dehydration/Hyperemesis Current systemic infection/Long-distance travel	18	4.5	

CONCLUSIONS

From the finding of this study, we can conclude that there are many risk factors for development of VTE among pregnant women, the most frequent risk factor was obesity which was present in 55%of cases.

Analysis of risk factors revealed that the majority of studied pregnant women (90.75%) had low risk and were not recommended for thromboprophylaxis, only 37 (9.25%) had intermediate risk and no one had high risk.