

بسم الله الرحمن الرحيم

قال تعالى:

"وَوَصَّيْنَا الْإِنْسَانَ بِوَالِدَيْهِ إِحْسَانًا حَمَلْتُهُ أُمَّهٗ كَرْهًا
وَوَصَّعْنَاهُ كَرْهًا وَحَمْلَهُ وَفِصَالَهُ ثَلَاثُونَ شَهْرًا"

سورة(الاحقاف)

الآية(15)

صدق الله العظيم

Dedication

....To my Mum and Dad

.....To my brothers and sisters

.....To my big extended family

Acknowledgment

I would like to thank Allah for giving me the acknowledge and patience. Words cannot express the especial appreciation and deep gratitude I feel to words my supervisor Dr. Mahmoud Elgari (Department of hematology) for this continuous significant encouragement and support through this thesis, and I would like to thank all those who helped me especially my lovely brother Mustafa. My thanks are extending to the staff of Khartoum hospital.Thanks are extended to my colleagues and my friends

Abstract

This is a cross-sectional descriptive and analytical study, conducted at Khartoum Teaching Hospital during the period from February to June 2011. The aim of this study was to assess the haemostatic parameters (Platelets count, Prothrombin time (PT); International normalized ratio (INR), activated partial thromboplastine time (A PTT) and Fibrinogen level) in healthy Sudanese pregnant women who attended Khartoum Teaching Hospital (obstetric ward). One hundred and thirty samples (130) were collected from hundred (100) Sudanese pregnant women, and thirty (30) non pregnant women (control). The participants were informed about the study and agreed for participation. The study population was divided into three groups according to month of pregnancy : first, second and third trimester . Five ml of venous blood were taken from each subject 2.5 ml in EDTA containers for platelets count , and 2.5 ml in tri sodium citrate containers these were tested for PT, INR, APTT and fibrinogen level.. Fully automated hematological analyzer (Sysmex Kx 21 N was used for platelets count and Sysmex CA500 was used for analyzing PT, INR, APTT and fibrinogen level). Statistical analysis showed significant decrease in platelet count mean during pregnancy ($225 \times 10^3/\mu\text{L}$) compared with control ($329 \times 10^3/\mu\text{L}$) p.value (<0.05). Significant decrease (p.value <0.05) was noted between the APTT mean of pregnant women(30.7 seconds) and the APTT mean of non pregnant women(34.0 seconds) and there was also significant mild decrease in PT mean (14.7) with INR(1.2) during pregnancy compared to control(15.5 sec) with INR(1.3) p.value(<0.05). The study was also showed that there was a significant increase in plasma fibrinogen level in pregnant women when compared with non pregnant women (mean of pregnant fibrinogen(4.3g/l), non pregnant mean(2.5g/l) with

p.value(<0.05) and there was a positive correlation between the number of pregnancies before and the level of fibrinogen

ملخص الرسالة

هذه دراسة مقطعية وصفية تحليلية تم اجراؤها في الفترة ما بين شهر فبراير الى شهر يونيو 2011 بمستشفى الخرطوم التعليمي لقياس عوامل التجلط وصفائح الدم لدى السودانيات الحوامل بولاية الخرطوم. اخذت مائة (100) عينة من مائة نسوة حوامل خلال شهور الحمل التسعة وثلاثون (30) اخريات غير حبليات بعد اخطارهن بهذه الدراسة واخذ موافقتهن. بعد ذلك جمعت المعلومات منهن عن طريق الاستبيان من العمر وعدد شهور الحمل وعدد مرات الحمل وماذا اذا كانت تأخذ اي ادوية داعمة للحمل، وتم تقسيمهن الى ثلاثة مجموعات حسب شهور الحمل. ثم اخذ 5 مل من الدم من كل مشاركة في الدراسة وقسمت الى 2.5 مل في حاويات تحتوي على مضاد التجلط (EDTA) لقياس الصفائح الدموية و 2.5 مل من الدم تحتوي على سترات الصوديوم الثلاثية لقياس زمن البروثرومبين و زمن الترومبوبلاستين الجزيء المنشط ومستوي الفيرينوجين في البلازما.

و تم استخدام جهاز (Sysmex Kx21N) لتعداد الصفائح الدموية و جهاز (SysmexCA500) لتحليل زمن البروثرومبين و زمن الترومبوبلاستين الجزيء المنشط ومستوي الفيرينوجين ويعمل الجهازان اوتوماتيكيا

وقد اظهرت نتائج التحليل الاحصائى ان متوسط الصفائح الدموية ($225 \times 10^3 / \mu\text{L}$) اظهر انخفاضا كبيرا من المعيار ($329 \times 10^3 / \mu\text{L}$) بمستوى معنوية (> 0.05) وان متوسط INR (1.2) اظهر انخفاضا طفيفا من المعيار (1.3) بمستوى معنوية (> 0.05) وايضا مستوى زمن الترومبو بلاستين الجزيء اظهر انخفاضا (30.7 sec) عن المعيار (34.0 sec) بمستوى معنوية (> 0.05) بينما اظهر متوسط الفيرينوجين ازيدا ملحوظا (14.3 g/L) عن متوسط المعيار (12.5 g/L) بمستوى معنوية (> 0.05). واوضحت الدراسة ان هناك علاقة ايجابية بين عدد مرات الحمل السابقة ومستوي الفيرينوجين في الدم.

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List of Abbreviations

Plasminogen activator inhibitor 1	PAI-1
Plasminogen activator inhibitor 2	PAI-2
Thrombin-activatable fibrinolysis inhibitor	TAFI
Von willebrand factor	VWF
Prostaglandin	PG
Thrombo modulin	TM
Activated protein C	APC
Phospho lipid antibodies	PLa
Cardio lipin antibodies	CLa
Thrombin-anti thrombin	TAT
Adenosine Di-phosphate	ADP
Platelet-activating factor	PAF
Thromboxan A2	TXA2
Phospho lipid A2	PLA2
Tissue factor	TF
Tissue factor pathway inhibitors	TFPI
High molecular weight kininogen	HMWK
Vitamin K epoxide reductase	VKORC
Protein formed in vitamin K absence	PIVKA

tissue plasminogen activator	t-PA
Fibrin degradation product	FDP
urinary plasminogen activator	u-PA
Strepto kinase	SK
Platelets	Plts
Prothrombin time	PT
Activated partial thromboplastine time	APTT
International normalized ratio	INR
Fibrinogen level	FL