

بسم الله الرحمن الرحيم

قال تعالى:

((لِلَّهِ مُلْكُ السَّمَاوَاتِ وَالْأَرْضِ يَخْلُقُ مَا يَشَاءُ يَهَبُ لِمَنْ يَشَاءُ إِنَاثًا وَيَهَبُ لِمَنْ يَشَاءُ الذُّكُورَ (49) أَوْ يُزَوِّجُهُمْ ذُكْرَانًا وَإِنَاثًا وَيَجْعَلُ مَنْ يَشَاءُ عَقِيمًا إِنَّهُ عَلِيمٌ قَدِيرٌ (50)))

سورة الشورى

.(الآيتان (49) (50)

Dedication

To the candles of my life: (my
father & mother)

To my beautiful half: (my
wife)

To the pleasure of my life:
(my kids)

To my brothers & sisters
To my colleagues & friends
I dedicate this work

Acknowledgement

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Abstract

This is a descriptive cross sectional study which was conducted in Khartoum state in the period from February 2011 to May 2011 to evaluate the effect of contraceptive pills (combined & progestin only pills) on coagulation tests (Prothrombin Time (PT), Activated Partial Thromboplastin Time (APTT), Thrombin Time (TT), and Fibrinogen level. One hundred females were selected as volunteers according to inclusion criteria and considered as case, and other twenty females not taken these pills, were selected and considered as control.

79% of the cases were under Combined Oral Contraceptive (COC), and the other **21%** were under Progestin Only pills (POP), **26%** of cases were used the oral contraceptives for less than six months, while **74%** for more than six months. The age of the cases were categorized into two groups, **51%** in age group less than thirty years and **49%** in age group more than thirty years. 4.5 ml of fresh venous blood were collected from each volunteer, after filling the questionnaire, in plastic container containing 0.5 ml of 3.8% trisodium citrate solution for anticoagulation. Then the contents of the container were mixed and centrifuged at 3000 round/min for 15 minutes for preparation of platelets poor plasma (PPP). The PPP were tested for the PT, APTT, TT, and fibrinogen level by using the coagulometer instrument (Clot). The results were analyzed by independent T test of the SPSS computer programme. The results of cases revealed that TT= 9.1 seconds, APTT= 33.4 seconds, Fibrinogen level= 266 mg/dl, and PT= 14.0 seconds. The results of control group revealed that TT= 9.8 seconds, APTT= 30.7 seconds, Fibrinogen level= 249 mg/dl, and PT= 13.4 seconds.

Over all the results were showed significant shortened in TT and increased in APTT when compared with control group with P value < 0.05, and no significant variations were noticed in both PT and fibrinogen level with P value > 0.05 and this indicate the hypercoagulability. No significant changes were noticed between age groups, type and duration of oral contraceptives.

هذه دراسة وصفية مقطعية أجريت في ولاية الخرطوم في الفترة ما بين فبراير 2011 الى مايو 2011 لتقويم أثر حبوب منع الحمل من النوع المركب والنوع المحتوي على البروجستين على اختبارات تخثر الدم (زمن البروثرومبين، زمن الثرومبوبلاستين المنشط الجزئي، زمن الثرومبين ومستوى الفبرينوجين. تم اختيار مائه من النساء اللائي استخدمن هذه الحبوب وفقاً لنظام الاختيار المحدد وعمولن كعينات اختبارية، عشرين امرأة لم يستخدمن هذه الحبوب وفقاً لنظام الاختيار المحدد وعمولن كعينات ضابطة. 79 % من العينات الاختبارية استخدمن النوع المركب من الحبوب بينما 21 % استخدمن النوع المحتوي على البروجستين. 26 % من العينات الاختبارية استخدمن الحبوب لفترة اقل من ستة شهور بينما 74 % استخدمنها لفترة اكثر من ستة شهور. 51 % من العينات الاختبارية كانت اعمارهن اقل من ثلاثين سنة بينما 49 % كانت اعمارهن أكثر من ثلاثين سنة. تم أخذ 4.5 مليلتر عينة دم وريدية من كل متطوعة ووضعت في وعاء بلاستيكي يحتوي على 0.5 مليلتر من ثلاثي سترات الصوديوم لمنع التخثر. تم استخدام جهاز الطرد المكزي بسرعة ثلاثة الاف لفة في الدقيقة ولمدة 15 دقيقة لتحضير عينة البلازما فقيرة الصفائح الدموية التي تم اختبارها لتحديد زمن البروثرومبين ، زمن الثرومبوبلاستين المنشط الجزئي، زمن الثرومبين ومستوى الفبرينوجين باستخدام جهاز قياس التخثر الالي (كلوت). تم تحليل النتائج باستخدام اختبار الفرق بين المتوسطين غير المعتمدين في برنامج الحزم الاحصائية للعلوم الاجتماعية المحوسب. أظهرت النتائج للعينات الاختبارية أن متوسط زمن الثرومبين هو 9.1 ثانية ، زمن الثرومبوبلاستين المنشط الجزئي هو 33.4 ثانية، مستوى الفبرينوجين هو 266 ملجم\ ديسيلتر وزمن البروثرومبين هو 14.0 ثانية. أظهرت النتائج في العينات الضابطة ان متوسط زمن الثرومبين هو 9.8 ثانية ، زمن الثرومبوبلاستين المنشط الجزئي هو 30.7 ثانية، مستوى الفبرينوجين هو 249 ملجم\ ديسيلتر وزمن البروثرومبين هو 13.4 ثانية. ملخصاً أظهرت الدراسة نقصاناً ذا دلالة احصائية في زمن الثرومبين وارتفاعاً معنوياً في زمن الثرومبوبلاستين المنشط الجزئي في العينات الاختبارية عند مقارنتها بالعينات الضابطة، بينما لم تكن هناك فروقاً معنوية في زمن البروثرومبين ومستوى الفبرينوجين وهذا يؤكد زيادة تجلطية الدم عند هؤلاء النسوة. كما لم تكن هنالك فروقاً ذات دلالات احصائية ناتجة من المتغيرات العمرية ونوع وفترة استخدام حبوب منع الحمل.

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List of Abbreviations

<u>Abbreviation</u>	<u>Full text</u>
APAs	Anti Phospholipid Antibodies
APC	Activated Protein C
APTT	Activated Partial Thromboplastin Time
AT III	Anti Thrombin III
COC	Combined Oral Contraceptive
CSF	Colony Stimulating Factor
DIC	Disseminated Intravascular Coagulation
EDRF	Endothelial Derived Relaxing Factor
FDP	Fibrin Degradation Product
GP	Glycoprotein
HMWK	High Molecular Weight Kininogen
INR	International Normalized Ratio
ISI	International Sensitivity Index
IUD	Intra Uterine Device
KCCT	Kaolin Cephalin Clotting Time
O.D	Optical Density
PAI	Plasminogen Activator Inhibitor
PF3	Platelet Factor 3
PK	Prekallikrin
PMDD	Premenstrual Dysphoric Disorder
PMS	Premenstrual Syndrome
PNP	Platelets Neutralization Procedure
POP	Progestin Only Pills
PPP	Platelets Poor Plasma
PT	Prothrombin Time
SLE	Systemic Lupus Erythromatosus
SPSS	Statistical Package of Social Science
TF	Tissue Factor
TFPI	Tissue Factor Pathway Inhibitor
tPA	Tissue Plasminogen Activator
TT	Thrombin Time
TxA2	Thromboxane A2
vWF	Von Willebrand Factor