

الاية

بسم الله الرحمن الرحيم

قال تعالى:

﴿يَا بَنِي آدَمَ خُذُوا زِينَتَكُمْ عِنْدَ كُلِّ مَسْجِدٍ وَكُلُوا

وَشَرَبُوا وَلَا تَسْرِفُوا إِنَّهُ لَا يُحِبُّ الْمُسْرِفِينَ﴾

صدق الله العظيم

سورة الأعراف الآية (31)

Dedication

To my mother who candle the light to my life.

To my father who spend all their life to help me.

To my sisters, brother & all our families.

To my teachers.

To my colleagues.

Acknowledgement

I thank God first and foremost to give the health and strength until it reached this stage, It is beyond thanks go to my teacher and supervisor Prof Sana Eltahir. Also I like to thank the staff at AL Arabia Fitting Center, Omdurman hospital. Also I would like to thank who contributed to or participated with me in this research, to every member of my family who have precious me, and who supported me financially or morally.

Abstract

This analytical case control study conducted in Khartoum State from March 2014 to May 2014 to measure the effect of obesity on some coagulation profile: Prothrombin Time (PT), Partial Thromboplastin Time (APTT) and International Normalised Ratio (INR). Basic information of participant which collect from questionnaire. Blood sample were collected from seventy obese subjects according to inclusion criteria and considered as case group and thirty samples were collected from not obese subjects and considered as control group. Twenty four of the cases were male, and the other Forty six were female. Thirty three of the cases aged less than thirty years and Thirty seven aged more than thirty year. Thirty three of the cases were obesity class I the body mass index was (30.00-34.99 kg/m²), Twenty nine of the cases were obesity classII the body mass index was (35.00-39.99 kg/m²) and eight of the cases were obesity classIII the body mass index was (≥ 40.00 kg/m²). Two milliliters of venous blood were collected from each subject by standard method. The PPP were tested for the PT, APTT and INR by using the coagulometer. The results revealed that there was significant decrease in PT level in case compared to control group (12.2 ± 0.7 sec Vs 13 ± 0.8 sec) (P. value .000), INR result in case (0.97 ± 0.06 Vs 1.03 ± 0.07) compared to control group (P. value .000) and APTT level in case compared to control group (30.3 ± 2.0 sec Vs 32.6 ± 2.1 sec) (P. value .000). The age affect PT and INR results while APTT result not affect by age .There were no changes in PT, APTT and INR related to gender and obesity class. The study concluded that obesity have significant decreasing PT, APTT and INR.

المستخلص

هذه دراسته تحليلية اجريت في ولايه الخرطوم في الفتره مابين مارس 2014 الى مايو 2014م لقياس تاثير البدانه على بعض اختبارات تخثر الدم (زمن البروثرومبين والنسبة الطبيعية الدولية، زمن الثرومبوبلاستين الجزئي المنشط وجمعت المعلومات الاساسيه باستخدام الاستبيان. تم جمع العينات من سبعين شخص بدين وفقا لنظام الاختيار المحدد وعوملن كعينات اختباريه وثلاثين عينه اخرى جمعت من اشخاص غير بدينين كمجموعه ضابطه. اربعة وعشرين من العينات الاختباريه كانوا رجالا بينما ستة واربعون كانوا نساء. ثلاثة وثلاثون من العينات الاختباريه كانت اعمارهم اقل من ثلاثين سنة بينما سبعة وثلاثين كانت اعمارهم اكثر من ثلاثين سنة. ثلاثة وثلاثون من العينات الاختباريه صنفوا كببناء من النوع الاول وقد كانت اوزانهم تتراوح من 30.00 kg/m^2 – 34.99 وتسعة وعشرون صنفوا كببناء من النوع الثاني وقد كانت اوزانهم تتراوح من 35.00 kg/m^2 – 39.99 بينما ثمانية صنفوا كببناء من النوع الثالث وقد كانت اوزانهم $\leq 40.00 \text{ kg/m}^2$. اثنين مل من الدم الوريدي جمعت من كل متطوع بطريقه مثاليه. تم اختبار عينه البلازما فقيره الصفائح الدمويه لتحديد زمن البروثرومبين والنسبه الطبيعيه الدوليه، زمن الثرومبوبلاستين الجزئي المنشط باستخدام جهاز قياس التخسر الالي . كشفت النتائج ان هنالك نقصان كبير في زمن البروثرومبين في العينات الاختباريه ($12.2 \pm 0.7 \text{ sec}$) مقارنة بالعينات الضابطه ($13 \pm 0.8 \text{ sec}$) و نتائج النسبة الطبيعيه الدوليه (INR) في العينات الاختباريه (0.97 ± 0.06) مقارنة بالعينات الضابطه (1.03 ± 0.07) وزمن الثرومبوبلاستين الجزئي المنشط في العينات الاختباريه ($30.3 \pm 2.0 \text{ sec}$) مقارنة بالعينات الضابطه ($32.6 \pm 2.1 \text{ sec}$). اثر العمر في زمن الثرومبين والنسبه الطبيعيه الدوليه بينما زمن الثرومبوبلاستين الجزئي المنشط لم يتاثر بمتغير العمر. كما لم تكن هنالك فروقا ذات دلالات احصائية ناتجة من متغير الجنس واصناف البدانة وخلصت الدراسه الى ان البدانه لها تأثير احصائي على نقصان زمن البروثرومبين و النسبه الطبيعيه الدوليه و زمن الثرومبوبلاستين الجزئي المنشط.

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List of Abbreviations

Abbreviations	Full word
5-HT	5- Hydroxytryptamine
ACA	Anti-cardiolipin antibodies
ADP	Adenosine Diphosphate
ADP	Adenosine DiPhosphat
AIDS	Acquired Immune DificiencySyndrom
APA	Antiphosholipid Antibodies
APTT	Activated PartialThrombin Time
AT- III	Antithrombin III
ATP	Adenosine Triphosphate
BMI	Body Mass Index
CaCl ₂	Calcium Chloride
CBC	Complete Blood Count
DIC	Disseminated Intravascular Coagulation
DNA	deoxyribonucleic acid,
DVT	Deep Venous Thrombosis
ECs	Endothelial Cells
FDPs	Fibrinogen Degradation Products
FL	Femtoliters
FSPs	Fibrinogen Split Products
GP	Glycoprotein
HHT	Hereditary Hemorrhagic Telangiectasia
HIV	Human Immune Difficiency Virus
HMWK	High Molecular Weight Kininogen
IL-6	Interleukin-6

INR	International Normalised Ratio
ISI	International Sensitivity Index
LA	Lupus Anticoagulants
O.D	Optical Density
PAI1	Plasminogen Activator Inhibitor-1
PAI-1:Ac	Plasminogen Activator Inhibitor-1 Activity
PAI-1:Ag	Plasminogen Activator Inhibitor-1 Antigen
PAI2	Plasminogen Activator Inhibitor-2
PDGF	Platelet-derived growth factor
PE	Pulmonary Embolism
PF	Platelet Factor
PFA-100	Platelet Function test-100
PK	Prekallikrein
PL	Phospholipid
PPP	Platelets poor plasma
PT	Prothrombin Time
SD	Standard Deviation
SPSS	Statistical Package of Social Sciences
TF	Tissue Factor
TF–PAR2	Tissue Factor Protease-Activated Receptors
TNF	Tissue Necrosis Factor
tPA	Tissue Plasminogen Activator
TT	Thrombin Time
TxA2	Thromboxane A2
u.PA	Urokinase Plasminogen Activator
UK	United Kingdom

VTE	Venous ThromboEmbolism
vWF	Von Willebrand Factor
WHO	World Health Organization
α 2-AP	alpha 2 antiplasmin