الآية

بسم الله الرحمن الرحيم

وَلَسَوْفَ يُعْطِيكَ رَبُّكَ فَتَرْضَىٰ

سورة الضحى الآية 5

DEDICATION

To the candle which burn to light my life

my mother

To the source of supercilious

my father

To the person who always stand beside me and support me

To those who have made it possible

Teachers and friends

To who will find it beneficial work

ACKNOWLEDGEMENT

First of all, thanks to Allah who granted me the ability to accomplish this work.
I would like to express my sincere gratefulness and respect to my thesis advisor **Dr.Selma Almalih Abdallah** of the veterinary medicine at Sudan university for science and technology. The door to Dr.Selma office was always open whenever I ran into a trouble spot or had a question about my research or writing. She consistently allowed this paper to be my own work, but steered me in the right the direction whenever he thought I needed it.

I would also like to thank the experts who were involved in the validation survey for this research project Without their passionate participation and input, the validation survey could not have been successfully conducted.

Finally, I must express my very profound gratitude to my parents and my friend for providing me with unfailing support and continuous encouragement throughout my years of study and through the process of researching and writing this thesis. This accomplishment would not have been possible without them. Thank you.

Author

Omnia Mustafa

ABSTRACT

The development of cardiovascular diseases with atherosclerotic origin is associated with a severe inflammatory and thrombosis processes. Neutrophils, lymphocytes and platelets are cells sensitive to this type of disorder and their ratios(NRL and PLR) have shown to be useful in clinical practice.The analytical study aimed to evaluate Neutrophil-Lymphocyte ratio (NLR) and platelet lymphocyte ratio (PLR) among Sudanese cardiovascular disease patients in Khartoum state. This study conducted at100CVD patients and 100 healthy volunteers as a control. Patients data was collected from patients medical files and by questionnaire. The NLR and the PLR were calculated as the ratio of neutrophil count to lymphocyte count and as the ratio of platelet count to lymphocyte count, respectively. 3ml of blood were collected from all participants in EDTA coagulant vaccutaner for CBC using sysmex XP300. ANOVA test was used in bivariate analysis to assess the factors affecting NLR and PLR.CBC findings were shown different comparison؛ hemoglobin and PCVwere decreased among case group compared with control(P=0.000). While WBCs, PLT and neutrophil counts were significantly elevated among case group compared with control group(P=0.000). Lymphocyte count significantly differenced for case and control group (P= 0.001). NLR was significantly(P=0.000) higher in CVD patients when compared. Also CVD patients showed significantly higher value of PLR when compared to control group. Both parameters (NLR and PLR) were significantly high in males CVD patients and non-STEMI CVD subtype ($P < 0.05$).

Conclusion In this study, NLR and PLR, simple inflammatory marker, can be used as an auxiliaryparameter for predicting the diagnosis of CVD. And also, they canprovide an additional level of risk stratification in patients with CVD.

المستخلص

اجريت الدراسة لمعرفة ارتباط أمراض القلب والأوعية الدموية مع تصلب الشرايين بعمليات التهابات و خثار الدم. العدلات ، الخلايا الليمفاوية والصفائح الدموية هي خلايا حساسة لهذا النوع من الاضطراب ونسبتها المعروفة باسم NLR (نسبة العدلات / اللمفاويات) و PLR (نسبة الصفائح / اللمفاويات) ، أظهرت أنها مفيدة في الممارسة السريرية. تم حساب نسبة العدلات اللمفاوية (NLR) ونسبة اللمفاويات الصفائح الدموية (PLR) بين مرضى الأمراض القلبية الوعائية في السودان. شملت هذه الدراسة 100 مرضى بأمراض القلب الوعائية و 100 من الاشخاص السليمين دون امراض القلب الوعائية. تم حساب NLR و PLR كنسبة العد العدلات إلى عدد اللمفاويات ونسبة عدد الصفائح الدموية إلى عدد الخلايا اللمفاوية ، على التوالي. تم استخدام اختبار ANOVA في التحليل ثنائي المتغير لتقييم العوامل التي تؤثر على NLR و PLR. كانت NLR أعلى بشكل ملحوظ في مرضى الأمراض القلبية الوعائية بالمقارنة مع الضوابط (5.6 ± 3.3 مقابل 1.7 ± 0.8 ؛ P = 0.000). كما أظهر مرضى الأمراض القلبية الوعائية قيمة أعلى بكثير من PLR بالمقارنة مع المجموعة الضابطة (162.3 ± 83.2 مقابل 98.4 ± 28.1 ؛ P = 0.000). علاوة على ذلك ، كانت كل من المعلمات (NLR & PLR) عالية بشكل ملحوظ في مرضى مرضى الأمراض القلبية الوعائية الذكور والنوع الفرعي غير STEMI CVD (P <0.05).

الاستنتاج في هذه الدراسة ، يمكن استخدام NLR و PLR ، علامة التهاب بسيطة ، كمعلمة مساعدة للتنبؤ بتشخيص المرض القلبي الوعائي. وأيضا ، يمكن أن توفر مستوى إضافي من تقسيم المخاطر في المرضى الذين يعانون من الأمراض القلبية الوعائية.

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%	Percentage
ACS	Acute coronary syndrome
ANC	Absolute Neutrophil Count
CAD	Coronary Artery Disease
CBC	Complete blood count
CD	Cluster of differentioation
CHD	Coronary heart disease
CK	Creatinie kinase
CK-Mb	Creatinie kinase-Muscle/Brain
CCL7	Chemokine ligand 7
CVD	Cardiovascular disease
CSX	Cardiac Syndrome X
C-IMT	Carotid intima media thickness
DVT	Deep Venous Thrombosis
ECM	Cardiac Extracellular Matrix
EDTA	Ethelene diamine tetra acitic acid
HLA	Human leukocyte antigen
IL-2	Interleukin 2
MI	Miocarial infarction
NLR	Neutrophil to lymphocyte ratio
PDAY	Pathological determinants of atherosclerosis in youth
PLR	Platelet to lymphocyte ratio
SNP	Single nucleotide polymorphism
TGF	Transforming Growth Factor
WBC	White blood cell
WHO	World health organization