بسم الله الرحمن الرحميم



ســورة المائـــدة آية رقم (9)

Dedication

I dedicate this work to my great father Mr. Kamal Hassan who always support and encourage me and to the best gift in my life my mother Mrs. Ebtesam Mohammed who inspired me.

Mayson K. Hassan

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Abstract

This study aimed to estimate and assess the level of serum ferritin among AML patients in Khartoum State. General objective of this work was to study serum ferritin level among acute myeloblastic leukemia patients in Khartoum State. It is a descriptive study, conducted in National Center of Radiotherapy and Nuclear Medicine in Khartoum, Sudan, during the period from Oct 2014 until Nov 2014. Data was collected by pre-coded questionnaire and analyzed by standard program of SPSS version 17, 2008 statistical package. Study included 40 AML diagnosed patients with age between 16-67 years old, they were 21 males (52.5 %) and 19 females (47.5%). Ferritin concentration was measured in serum by using Biosystem Clinical Analyzer A15 (Barcelona, Spain) with a commercial ferritin latex kit. Serum ferritin level among AML patients was significant higher than the normal reference value (P=0.00), mean serum ferritin level in AML patients was (431.86±16.61µg/L). Serum ferritin level correlated positively with TWBCs (r=0.345) (P=0.029) and no correlation with Hb concentration (P=0.604) was found. There was no significant difference of serum ferritin level between FAB subclasses of AML (P=0.107). There was no variation among age (P=0.900) and no significant difference between males and females patients with AML (P=0.154) in regard to serum ferritin level. No correlation found between serum ferritin level and blast% (P=0.703). Study concluded that serum ferritin level can contributed in initial evaluation of AML disease.

ملخص الدراسة

هدفت هذه الدراسة لقياس وتقدير مستوى فيريتين المصل لدى مرضى السرطان الارومي الحاد بو لاية الخرطوم. كان الهدف العام من هذا العمل در إسة مستوى فيريتين المصل لدى مرضى السرطان الارومي الحاد بولاية الخرطوم. هذه دراسة وصفية،أجريت في المركز القومي للعلاج بالأشعة والطب النووي في الخرطوم، السودان، خلال الفترة من أكتوبر 2014 حتى نوفمبر 2014 ، تم جمع البيانات من المرضى بإستخدام الإستبيان المشفر وتحليلها بواسطة النسخة القياسية 17 من برنامج الحزمة الإحصائيةSPSS ، SPSS. وشملت الدراسة 40 من مرضى السرطان الارومي الحاد, أعمارهم تتراوح بين 16-67 سنة، وكانوا 21 من الذكور (52.5٪) و 19 من الإناث (47.5٪). وقد تم قياس تركيز فيريتين المصل بإستخدام المحلل السريري (15 أ) مع مجموعة لاتكس فيرتين التجارية. مستوى فيريتين المصل بين مرضى السرطان الارومي الحاد كانت أعلى من القيمة المرجعية الطبيعية (P = 0.00). كان متوسط مستوى فيريتين المصل عند هؤلاء المرضى (43,86±16,61µg/L). يرتبط مستوى فيريتين المصل بشكل إيجابي مع تعداد كريات الدم البيضاء (r=0.345) (P=0.029) و V=0.029 و V=0.029إحصائي مع تركيز الهيمو غلوبين (P =0,604). لم يوجد فرق إحصائي في مستوى فيريتين المصل بين الفئات الفرعية للتصنيف FAB (P=0,107). ليس هنالك فرق احصائي في مستوى فيرتين المصل باعتبار العمر (P=0,900) و بين الذكور والإناث من مرضى السرطان الارومي الحاد (r=0,154). لا يوجد إرتباط إحصائي لمستوى فيرتين المصل عند مرضى سرطان الدم الأرومي الحاد مع النسبة المئوية للخلايا الأرومية (P=0,703). خلصت الدراسة إلى أن مستوى فيريتين المصل عند مرضى السرطان الارومي الحاد يمكن أن يساهم في التقييم الأولى لهذا المرض.

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Abbreviations

ALL Acute lymphoblastic leukemia.

AML Acute myeloblastic leukemia.

AML M_{4E0} Acute eosinophilic leukemia.

AMML Acute myelomonocytic leukemia.

APL Acute promyelocytic leukemia.

ATRA All-trans retinoic acid.

BAALC Brain and acute leukemia cytoplasmic gene.

CBFB Core-binding factor subunit beta.

CD Cluster of differentiation.

CEBPA CCAAT/enhancer binding protein alpha.

CGH Comparative genomic hybridization.

CLL Chronic lymphocytic leukemia.

CNS Central nerves system.

DIC Disseminated intravascular coagulation.

DNA Deoxyribonucleic acid.

EDTA Ethylenediaminetetra acetic acid.

E.g. For example.

ELISA Enzyme-linked immunoabsorbent assays.

ERG Erythroblast transformation specific related gene.

EVI1 Ecotropic Viral Integration Site 1.

FAB French-American-British.

Fig Figure.

FISH Fluorescence *in site* hybridization.

FLT FMS-like tyrosine kinase.

H-subunit Heavy-subunit.

Hb Hemoglobin.

HLA Human leucocyte antigen.

HSV Herpes Simplex Virus.

IARC International Agency for Research on Cancer.

ITD Internal tandem duplications.

KIT v-kit Hardy-Zuckerman 4 feline sarcoma viral oncogene.

KRAS Kirsten rat sarcoma viral oncogene homolog.

L-subunit Light-subunit.

LAP Leukemia-associated phenotype.

MDS Myelodysplastic syndrome.

MKL1 Megakaryoblastic leukemia 1 gene.

MLL Mixed-lineage leukemia gene.

MN1 Meningioma gene.

MPD Myeloprolifrative disorder.

MPO Myeloperoxidase.

MYH11 Myosin 11.

NIBSC National Institute for Biological Standards and control.

NOS Not otherwise categorize.

Nov November.

NPM1 Nucleophosmin.

NRAS Neuroblastoma rat sarcoma viral oncogene homolog.

NUP214 Nucleoporin 214 KDa.

Oct October.

PCR Polymerase chain reaction.

PML Promyelocytic leukemia gene.

PRAME Preferentially expressed antigen in melanoma.

RARA Retinoic acid receptor alpha.

RAS Receptor tyrosine kinases.

RBM15 RNA binding motif protein 15.

RHAMM Hyaluronan-mediated motility receptor.

RNA Ribonucleic acid.

ROS Reactive oxygen species.

RPN1 Ribophorin 1.

RT-PCR Reverse transcriptase polymerase chain reaction.

RUNX1 Runt-related transcription factor 1.

SBB Sudan black B.

SE Stander error.

SPSS Statistical package for the social sciences.

TCR T cell receptor.

TET2 Tet methyl cytosine dioxygenase 2.

TNF α Tumor necrosis factor α .

TWBCs Total white blood cells.

WHO World Health Organization.

WT1 Wilms tumor 1.