

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

قال الله تعالى

إِنَّا عَرَضْنَا الْأَمَانَةَ عَلَى السَّمَاوَاتِ وَالْأَرْضِ
وَالْجِبَالِ فَأَبَيْنَ أَنْ يَحْمِلْنَهَا وَأَشْفَقْنَ مِنْهَا
وَحَمَلَهَا الْإِنْسَانُ إِنَّهُ كَانَ ظَلُومًا جَهُولًا

صدق الله العظيم

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Abstract

Macrocytic anemia can develop infrequently in patients with thyroid disease mainly hypothyroidism and has high mortality rate. hypothyroidism -induced Macrocytic anemia is a serious problem that affect patients treatment . The objective of this study is the detection of changes in hematological parameters (mean cell volume, mean cell hemoglobin) among Sudanese patients with thyroid disease attending certain Khartoum clinical centers.

A descriptive cross - sectional hospital-based study was conducted from (March 2013 to August 2013). 100 blood samples were taken from Sudanese thyroid disease patients (59 patients were hyperthyroidism and 41 patients were hypothyroidism) in police hospital and East Nile hospital and 50 blood samples from healthy volunteers as controls. All blood samples were tested for Complete Blood Count(CBC).

Haemoglobin level were lower in 9% (9/100) patients and normal in 91% (91/100) patients. The mean of MCV and MCH were (105.20 ± 3.521 , 34.50 ± 1.014) (P. value 0.001) increased in (hypothyroidism) patients, and (87.92 ± 1.21 , 28.59 ± 1.856) (P. value 0.001) normal in(hyperthyroidism) patients. The mean of MCHC was 33.00 ± 1.078 (P. value 0.001) normal in (hypothyroidism) patients, and 31.67 ± 1.858 (P. value 0.001) normal in(hyperthyroidism) patients respectively).

Nine percent showed an elevation in the mean cell volume (MCV) in the hypothyroidism patients. This increase was found correlated with the severity of the disease.

الخلاصة

تنشأ أنيميا كريات الدم الحمراء الكبيرة بصورة غير متكررة فى المرضى الذين يعانون من انخفاض افراز الغدة الدرقية وله معدل وفيات عالية. انخفاض افراز الغدة الدرقية المحدث للأنيميا كريات الدم الحمراء الكبيرة مشكله خطيرة لأنه يؤثر على علاج المرضى. وكان الهدف من الدراسة تحديد مدى التغيرات التى تطرأ على حجم كرات الدم الحمراء ونسبه الهيموغلوبين فى كرات الدم الحمراء بين المرضى السودانيين فى مراكز مستشفيات بالخرطوم.

اجريت هذه الدراسة الوصفية المقطعية فى الفترة ما بين شهر مارس الى اغسطس 2013. تم أخذ عينات دم من 100 مريض بالغدة الدرقية (59 مريض يعانون من زيادة افرازات الغدة الدرقية و 41 مريض يعانون من انخفاض افرازات الغدة الدرقية) بمستشفى الشرطة ومستشفى شرق النيل و 50 عينة دم للمقارنة من متطوعين أصحاء. تم اختبار جميع العينات لحساب الدم الكامل.

وجد الأتي نسبه الهيموغلوبين منخفضة فى 9% (9/100) مريض وطبيعى فى 91% (91/100) مريض. لا توجد حالة $MCHC(105.20 \pm 3.521$ و MCH و MCV فى المجموعه الضابطه منخفضة الهيموغلوبين. المتوسط ل 1.21 ± 87.92 , 1.856 ± 28.59 , 30.67 ± 1.078 , 34.50 ± 1.014 , 33.00 ± 1.078 و $1.858 \pm$ (القيمة التنبؤية < 0.001) فى مرضى انخفاض وارتفاع افرازات الغدة الدرقية ايجابيا وسلبيا على (التوالى).

أظهرت تسعة فى المائة زيادة حجم كريات الدم الحمراء فى مرضى انخفاض إفرازات الغدة الدرقية. وجدت هذه الزيادة لها علاقة مع وحده المرض.

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List of Abbreviation

Abbr.	Term
MCV	Mean Cell Volume
MCH	Mean Cell Hemoglobin
MCHC	<u>Mean</u> Cell Hemoglobin Concentration
TSH	Thyroid Stimulating Hormone
T3	Triiodothyronine
T4	Thyroxine
TCII	Transcobalamins II
K3-EDTA	Potassium3-Ethylene Diamine Tetra Acetate
CBC	Complete Blood Count
PBP	Peripheral Blood Picture
RBCs	Red Blood cells