الآية

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

قال تعالى :

(قُلْ إِنَّ صَلاَتِي وَنُسُكِي وَمَحْيَايَ وَمَمَاتِي لِلّهِ رَبِّ الْعَالَمِينَ{162} لاَ شَرِيكَ لَهُ وَبِذَلِكَ أُمِرْتُ وَأَنَاْ أَوَّلُ الْمُسْلِمِينَ{163}).

صدق الله العظيم

سورة الأنعام الآية 162-163

DEDICATION

TO … my mother and father

My life soul

Acknowledgment

First of all I gratefully thank Allah for helping me in the preparation of this work .

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Abstract

This was a descriptive analytical study conducts in Aljazeera State during November 2008 to January 2009 was carried out in patients suffering from β thalssemia and their relatives in Wad madani pediatric teaching Hospital, to estimate the frequency of β thalssemia in patients and their relatives .

70 persons (30 males and 40 females), their ages ranged between 2 to 80 years was enrolled .

Five mL of venous blood was collected from each person, 2.5 mL into EDTA containers, for blood films, full blood count (CBC) using electronically method (Sysmex Kx 21n.fully automated hematologyical analyzer), and hemoglobin F quantification (Betke *et al*. method), were performed on all subjects, and 2.5mL in to plain containers for serum ferritin , and serum iron using (A25 automated system), were performed only on microcytic hypochromic samples.

A reduced mean corpuscular volume (MCV) of <80 fl with reduced mean corpuscular heamogloin (MCH) of <27, and elevated HbF (mean 4.6) used as a screening test for thalassaemia in this population, followed by iron studies to the microcytic hypochromic samples (mean of iron 76.08 and ferritin 134.86), to confirm the diagnosis. Using this approach, 43 cases (61.4%) were diagnosed of β-thalassaemia trait, while 22 (31.5%) were normal and 5 cases (7.1%) was already diagnosed as β-thalassaemia patients.

أجريت هذه الدراسة التحليلية الوصفية في ولاية الجزيرة في الفترة ما بين نوفمبر 2008 و حتى يناير 2009 وشملت المصابين بمرض فقر دم حوض البحر الأبيض المتوسط النمط بيتا وأقربائهم بمستشفى ود مدنى للأطفال .

كان الهدف من هذه الدراسة هو تحديد تردد المصابين بهذا المرض والحاملين للصفة الوراثية لهذا المرض.

شملت الدراسة 70 شخص و تتراوح أعمارهم ما بين 2- 80 سنه منهم 30 ذكور و 40 إناث حيث تم أخذ 5مل من عينه الدم الوريدي من كل شخص , وضعت 2,5مل من العينة في حاويه بها مانع للتجلط وذلك لإجراء فحص الدم الكامل و عمل مسحات الدم الرفيعة أما بقية العينة وضعت فى حاويه خاليه من مانع التجلط وذلك لفصل المصل لإجراء اختبار تركيز الحديد في الدم .

تم اختبار الدم الكامل بواسطة جهاز تعداد الدم الاكترونى (Sysmex) . وتحديد نسبة الخضاب الجنيني ، و تركيز الحديد عند الأشخاص الذين لديهم فقر دم صغير الكريات نا قص الصباغ فى كل عينه . من هذه النتائج تم تحديد أن كل شخص حجم الكريات الوسطى لديه أقل من 80fL (صغير الكريات) , وخضاب الكريه الوسطى لديه أقل من 27 pg (نا قص الصباغ), وكان تركيز الخضاب الجنيني له أكثر من 1,0% , وتركيز حديد المصل طبيعي , يكون مصاب بخلَة فقر دم البحر الأبيض المتوسط ومن ثم كان عدد المصابين بالخلَة 43 بنسبة 61,4% ,والأصحاء 22 بنسبة 31,5% ,أما المرضى كان عددهم 5 بنسبة 7,1% وهؤلاء مشخصين مسبقا .

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LIST OF ABBREVIATIONS

A	Adenine
C	Cytosine
CBC	Complate blood count
CO2	Carbon dioxide
COOH	Carboxylic-group
dL	Deciliter
DNA	Deoxyribonucleic acid
EDTA	Ethylenediamine tetra acetic acid
ELISA	Enzyme linked immunosorbant assay
FBC	Full blood count (complete blood count, CBC)
Fe	Iron
fL	Femtolitre
G	Guanine
Hb	Hemoglobin
HbA	Hemoglobin A
HbA2	Haemoglobin A2
HbE	Hemoglobin E
HbF	Fetal hemoglobin
HbH	Hemoglobin H
HCT	Hematocrit
HiCN	Hemoglobin cyanide
HPHF	Hereditary persistence of fetal hemoglobin
HPLC	High performance liquid chromatography
K2 EDTA	Dipotasium ethylenediamine tetraacetic acid
kb	kilo base pairs
kDa	Kilo Dalton
MCH	Mean corpuscular Hemoglobin

MCHC	Mean corpuscular Hemoglobin concentration
MCV	Mean corpuscular volume
MPV	Mean platelet volume
mRNA	Messenger ribonucleic acid
NH2	Amino-group
nt	Nucleotide
PCR	Polymerase chain reaction
PCV	Packed cell volume
PDW	Platelet distribution width
pg	Pico gram
RBCs	Red blood cells
RDW	Red cell distribution width
RFLT	Restriction fragment length polymorphism
SD	Stander deviation
SPSS	Statistical product and service solution
T	Thymine
WBCs	White blood cells
µg	Microgram