

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

قال الله تعالى

وَمَا أُوتِيتُمْ مِنَ الْعِلْمِ إِلَّا قَلِيلًا

صدق الله العظيم

سورة الإسراء الآية (85)

DEDICATION

If there are words to say, I would like pleasantly to dedicate this simple work :

To my dear parents whom without their encouragement, I could not reach this step.

To all my family members ..

To all friends, colleagues, teachers and every one I know.

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First of all I would like to thank God for giving me the ability and health to finish this research. My appreciation to Dr.Abdalla Abdelkarim Osman for this stimulation and support .

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مستخلص الأطروحة

هدفت هذه الدراسة الوصفية التحليلية ، إلى دراسة حاملي مرض الأنيميا المنجلية على عائلات ينتمي أفرادها إلى قبيلة التنجر التي تعتبر إحدى قبائل غرب السودان ، تمت الدراسة في الفترة ما بين شهر أكتوبر 2008 إلى شهر أبريل 2009 بولاية الخرطوم.

تم إعلام المتطوعين بأهداف الدراسة وأخذت موافقتهم ، ثم أخذت مائة عينة دم من مائة متطوع من 14 أسرة مختلفة ، بمقدار 2.5 مل في حاويات تحوي مانع التجلط EDTA تم إجراء اختبارات الدم الكامل ، اختبار التمنجل والرحلان الكهربائي لخضاب الدم.

تم استخدام جهاز Sysmex الذي يعمل أوتوماتيكيا وجهاز الرحلان الكهربائي لخضاب الدم .

تم تحليل البيانات باستخدام برنامج التحليل الإحصائي " الحزم الإحصائية للعلوم الاجتماعية " ، وقد أظهرت النتائج الإحصائية في هذه الدراسة أن نسبة الذكور للإناث هي 46 إلى 54 على التوالي ، كما وجد أن فحص التمنجل إيجابي بنسبة 18% وسلبى بنسبة 82% ، والرحلان الكهربائي وضح أن نسبة فقر الدم المنجلي المرضي 1% وحاملي المرض 18% وغير المصابين 80% .

وجد أن عمر المريض هو 11 سنة ، وحاملي المرض 39.18 سنة ، وتركيز خضاب الدم في المريض هو 6.20 جم/دسل ، ومتوسط تركيز خضاب الدم في حاملي المرض 12.74 جم/دسل .

تعداد الكريات البيضاء 18.60 خلية/مل مكعب ، والصفائح الدموية 450 ألف/مل مكعب للمريض ، أما حاملي المرض فإن تعداد الكريات البيضاء هو 4.75 خلية/مل مكعب والصائح الدموية 236.4 ألف/مل مكعب .

**خلصه هذا العمل نجد أن فقر الدم المنجلي في قبيلة
التنجر موجود ولكن بنسب منخفضة (1%)، وإلى وجود أفراد
حاملين للمرض (17%).
تمت مقارنة النتائج مع نتائج القبائل السودانية الأخرى
فوجد توافق مع بعضها وعدم التوافق مع البعض الآخر.**

Abstract

This study is an analytical descriptive study a cross sectional study to determine sickle cell trait frequency in families belong to El-Tonjure Sudanese tribe, which is considered to be one of Western Sudan tribes . This study was done in the period from October 2008 to April 2009.

Informed consent was taken from 100 individuals from 14 different families belonging to El-Tonjure tribe, and 2.5 ml of venous blood in ethylene-diamine-tetra-acetic acid (EDTA) containers was collected from each, and investigated for presence of Hb S, complete blood count (CBC), sickling test and Hb electrophoresis .

Fully automated heamatological analyzer (Sysmex Kx 21N), Electrophoresis tank and power pack were used.

The data were analyzed by computer using the statistical program Statistical Package for Social Sciences (SPSS).

Participants in this study included 46 male and 54 females, sickling test showed 18% were positive and 82% were negative o f the study population . Hb electrophoresis showed 17% sickle cell trait. 1% sickle cell disease and 82% normal Hb.

The mean age of the sickle cell patients was 11 years, and sicle cell trait 39.18 years. The mean Hb concentration among the Hb SS patient was 6.20 mg/dl, and among Hb AS carriers was 12.74 ml/dl. And among Hb AA was 12.88ml/ dl.

The total leukocyte count mean was 18.60×10^3 cell/cu.ml, and platelet counts mean was 450000/cu,ml in sickle cell disease while in sickle cell trait was 4.75×10^3 cell/cu nl and 236.4×10^3 cell/cu nl respectively .

In conclusion sickle cell anaemia is not of high frequency in the Tonjure tribe.

Results were compared with other Sudanese tribes' results and we found that they are compatible with some results and not compatible with others.

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List of abbreviations

Hb	Haemoglobin
MCV	Mean cell volume
MCH	Mean cell hemoglobin concentration
MCHC	Mean cell hemoglobin concentration
PCV or HCT	Packed cell volume Haematocrite
CBC	Complete blood count
TWBCsC	Total white blood cells count
TRBCsC	Total red blood cells count
WBCs	White blood cells
RBCs	Red blood cells
RES	Reticuloendothelial system
Hb S	Haemaglobin S
Hb A	Haemoglobin A
Hb C	Haemoglobin C
Hb O	Haemoglobin O
Hb SC	Haemoglobin SC
Hb SD	Haemoglobin SD

SCD	Sickle cell disease
G-6PD	Glucose 6 phosphate dehydrogenase
Hb SE	Haemoglobin SE
TEB	Tri EDTA borate
ESR	Erythrocyte sedimentation rate
EDTA	Ethylene diamine tetra acetic acid
SPSS	Statistical package for social sciences