

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

قال الله تعالى

قُلْ إِنْ صَلَاتِي وَنُسُكِي وَمَحْيَايَ
وَمَمَاتِي لِلَّهِ رَبِّ الْعَالَمِينَ (162) لَا
شَرِيكَ لَهُ وَبِذَلِكَ أُمِرْتُ وَأَنَا أَوَّلُ
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صدق الله العظيم

سورة الأنعام الآيات 162-163

Dedication

This study was dedicated to the heart of my life, my parent.

To my brothers, teachers and colleagues

I dedicated this work.

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النتائج

هذه دراسة وصفية ، تحليلية هدفت لدراسة تردد الزمر الوظيفية و النمط الظاهري و الوراثة لنظام الدم Kell والنمط الظاهري لنظام الدم ABO والعامل الريصي (D Rhesus). أجريت هذه الدراسة على قبيلة الشكرية و قد إستغرقت فترة ثلاثة أشهر (من إبريل الى يونيو ٢٠٠٧). بعد أخذ الموافقة من الأشخاص الذين سحب منهم الدم بعد إحاطتهم باهداف البحث، تم تجميع مائة عينة في وعاء سعة ٥,٢مل يحتوي على مادة مانع للتخثر من أشخاص لا تربطهم صلة قرابة.

تم فحص جميع العينات لمعرفة الزمرة الوظيفية لنظام Kell بواسطة تقنية الجل الحديثة. و لنظام ABO و العمل الريصي (D Rhesus) تم إستخدام الشريحة المباشرة، أما بالنسبة للعينات سالبة العامل الريصي تم إستخدام تقنية (D^u). تم تحليل النتائج بواسطة برنامج SPSS و تحديد التشابه بين القبائل و الدول الأخرى بواسطة برنامج جاكرد للتشابه (Jacard's coefficient similarities).

أوضحت الدراسة أن الزمرة الوظيفية O هي الأكثر ترددا بنسبة (58%) بينما كانت الزمرة الوظيفية A متوسطة التردد بنسبة (24%) تتبعها الزمرة الوظيفية B بنسبة (14%) و الزمرة الوظيفية الأ قل ترددا وجدت AB بنسبة (4%). وكان العامل الريصي (D Rhesus) الأكثر ترددا بنسبة (96%).

في نظام الدم Kell وجد أن الزمرة الوظيفية KEL2 هي الأكثر شيوعاً بنسبة (100%) بينما الزمرة الوظيفية KEL1 هي الا قل تردداً بنسبة (2%). و النمط الظاهري (+K-k) هو الأكثر تردداً بنسبة (98%) وكذلك النمط الظاهري (+K+k) هو الأ قل تردداً بنسبة (2%) اما النمط الظاهري (-K+k) لم يوجد.

عندما قورنت النتائج مع الجنسيات الأخرى وجد أن نسبة فصيلة الدم من النوع ABO أقرب للدراسات التي أجريت على الجنسيات الافريقية مثل النيجيريين و الكينيين، و أيضاً قبيلة البنجاب في باكستان وأبعد من تلك الدراسات التي أجريت في الهند و البريطانيين. ونسبة وجود الانتيجين (D Rhesus) أقرب الى النسبة التي وجدت عند النيجيريين والامريكان السود، وأبعد من تلك التي وجدت في الكينيين، البريطانيين و الامريكان البيض تمت مقارنة النتائج المتحصلة في هذه الدراسة مع نتائج بعض القبائل السودانية في نفس الأنظمة فوجد أن هناك تشابه في بعض الزمر الوظيفية في نظام الدم ABO و العامل الريصي (D Rhesus) مع قبائل الدناقلة و الشايقية مما يشير إلى تشابه الأسلاف أو وجود

سلف مشترك. ووجد أن هناك إختلاف مع قبائل المسيرية و الهدندوة و النوبة. أما في نظام الدم Kell وجد أن هناك تشابه مع قبيلة العركيين.

نخلص إلا ان التشابه بين ال قبائل السودانية التي تقطن في منطقة واحدة ناتج عن التزاوج بين هذه القبائل. بينما نجد أن ال قبائل التي تبعد عن بعضها البعض جغرافياً يوجد بينهما بعض الإختلاف

Abstract

This was descriptive, prospective and analytical study that was aimed to determine the frequencies of Kell (KEL1 and KEL2) antigens and phenotypes also to determine the ABO blood group antigens and Rh (D) factor. The study was conducted in Al-Shukria tribe during the period of three months (April to June 2007) following informed consent, a total of 100 venous blood samples were collected in 2.5 ml of blood EDTA containers from unrelated individual. The red cells were tested for Kell (KEL1 and KEL2) antigens by using ID-Gel micro typing system, for ABO blood group system and Rh (D) factor using slide method and D^u method for negative results the results were analyzed using SPSS computer program and the similarities between study tribe and other Sudanese tribes and with other countries were calculated by Jacard's coefficient similarities.

The results were showed that the O phenotype was common with the frequency (58%), followed by the A blood group with intermediate frequency (24%) and B blood group with frequency of (14%) and the least common was found to be AB blood group (4%). The Rhesus (D) was found to be most common (96%).

In Kell blood group system the KEL2 was the commonest antigen (100%), while the KEL1 antigen was least common with the frequency (2%) among the study group. The phenotype (K-k+) was the commonest frequent (98%), while the phenotype (K+k+) was least common frequent (2%) and the phenotype (K+k-) was not found among the study group.

The result were compared with the results of other Sudanese tribes in the same system and were found that there similarity in some ABO blood group and Rh (D) factor with the Al-Danagla, Al-Shagia and there were differences with

the Al-Miseria, Al-Hadandawa and Al-Nuba. While in the Kell blood system found that there similarity with the Al-Arrakein tribe.

When results were compared with other populations, revealed that the frequency of ABO was found to be close to people from African region such as Nigerian and Kenyan populations also similar to Punjab (Pakistan), and far from Indian and British populations.

The frequency of Rhesus D was found to be close to Nigerian population and Black Americans, and far from Kenyan, British and White Americans population.

We conclude that the similarities between Sudanese tribes resulting from intermarriage between them, while the differences between the tribes that leaving in different geographical area.

List of abbreviations

Ag:	Antigen.
AHG:	Antihuman globulin.
AIHA:	Autoimmune hemolytic anemia.
EDTA:	Ethylene Diamine Tetra Acetic acid.
HDN:	Haemolytic Disease of the Newborn.
HTR:	Haemolytic Transfusion Reaction.
ID:	Immunodiffusion.
IgG:	Immunoglobulin G.
IgM:	Immunoglobulin M.
ISBT:	International Society of Blood Transfusion.
KD:	Kilo Dalton.
RBC:	Red blood cells.
Rh:	Rhesus blood group system.
SPSS:	Statistical Package for Social Sciences.
UK:	United Kingdom.
USA:	United States of America
CGD:	chronic granulomatous disease.
CPK:	Creatine Phosphokinase.
2-ME:	2 Mercapto ethanol.
K:	Kabba
λ:	Lambda
μ:	Meo
γ:	Gama

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