

## Role of Blood Group in Nail Growth

Muhammad Imran Qadir & Sana Zainab\*

*Institute of Molecular Biology and Biotechnology, Bahauddin Zakariya University, Multan, Pakistan.  
Correspondence\*: sanazainab2212@gmail.com*

Article Received: 29 August 2018

Article Accepted: 28 November 2018

Article Published: 21 January 2019

### ABSTRACT

The objective of present study was to correlate nail growth in humans with blood group system in humans. Total of 172 subjects participated in the study. The subjects were students in Bahauddin Zakariya University Multan, Pakistan. Blood is checked against three types of antibodies in test tube against Antibodies A, Antibodies B and anti-Rh serum. We took blood sample of subject then checked the blood group type of subject. We made list of all subjects with their respective blood group types then asked them one by one in how many days do your nails grow? Then We mentioned number of days in list after their blood group type in list. It is concluded from present study that fastest nail growth is observed in B- females and slowest in A- males.

**Keywords:** ABO blood group system, Nail growth, Blood grouping.

### INTRODUCTION

ABO blood group system is found in Human beings. ABO blood group system contains 4 types of blood. AB blood system is heterozygous blood system which contains 2 different antigens A and B and no Antibody. The person with this blood system can take blood from all other blood groups such as A, B and O because of absence of antibodies. They are known as Universal Acceptors. The person with AB blood group can only donate blood to the person who also have AB blood system A blood group can be homozygous or heterozygous as AA or Ai depends upon the genotype of Parent's Blood Group. It contains A antigens and produces B antibodies. Person with this blood system can take blood from the donor which have either A blood group or O blood group. It can give blood. B blood group can also be homozygous or heterozygous as BB or Bi. It contains B antigens and A antibody. Person with this blood system can donate blood to either person with AB blood group or to the person with B Blood group and can take blood from O blood group donor or from B blood group donor. It is known as Universal Donor because they can donate blood to all other blood group systems such as AB, A and B Blood group. It is recessively homozygous and has genotype ii. It contains no antigen and contain A and B antibodies therefore does not accept blood from any other group except O but can donate to all other groups. Rh blood group describe the positive and negative sign of ABO blood group system on the basis of presence of Rh antigen. If Rh antigen is present on certain group then it is taken as positive blood group and if Rh antigen is absent then blood group is negative as A+ or A-, B+ or B-, O+ or O- and AB+ or AB-(1).

Transfusion of Blood also depends upon the Rh antigen. Person with positive blood group can take blood from positive blood group donor. In case of transfer of Blood from negative donor to positive acceptor, transfusion can have done because in this case antibodies will not produce due to absence of Rh antigens on negative blood type. Negative blood group type cannot take blood from positive blood group because Rh antigen will trigger the production of antibodies which kill the blood cells and may cause death (2).

Human fingernails grow an average of 3.3mm per month. There are many factors which effect the growth of nails as health, nutrition and also nail care. Stronger nails grow faster because there is lesser chance of breaking nails. Long and healthy nails make hands look better. Fingernails consists of 2 parts; Nail plate and Nail bed. Nail plate is made up of Keratin protein.

It is hard part of Nail. Nail plate is not made up of living tissues therefore nail growth does not depend upon nail plate but on nail bed. If we prevent the breakage of nail plate nail health begins in the nail bed. Nail bed is the tissue under the nail If the nail breaks off below the fingertip the nail bed can be exposed. Nail bed consists of living tissues. At the base of the nails there is a structure called nail matrix where growth begins. Nail growth depends upon nail matrix. Deficiency of calcium leads to decrease in strength of nails.

The objective of present study was to correlate nail growth in humans with blood group system in humans.

## **MATERIALS AND METHODS**

### **Blood Grouping**

In order to check blood group of any person take blood from his/her body. Sterilize fingertip by alcohol wipes then take blood from fingertip by pricking it with needle. Blood is checked against three types of antibodies in test tube against Antibodies A, Antibodies B and anti-Rh serum. Cells clumping or blood clotting tells about the type of Blood group of that blood sample. Put blood sample in test tube then add antibodies in it and check it against antibodies. After adding antibodies to blood sample wait for few while to observe precipitates formation. If blood cells clot it means blood cells reacted with one of the antibodies. If blood cells do not clot on antibodies A or Antibodies B then it is blood group O, if it clots on both antibodies A and B then Blood group is AB. If blood cells clot against Antibodies A then it is Blood Group B and if blood cells clot against Antibodies B, then it is Blood Group A. After this positivity or negativity of blood sample is checked against anti-Rh serum. Mix anti-Rh serum on blood sample if blood cells clot on Rh antibodies then blood group type is positive and if they do not clot then it is negative blood group type such as A negative or A Positive Blood group.

### **Project designing**

First of all, we took consent from subject to check their blood group then collected information by making questionnaire that in how many days do their nails grow? then We took blood sample of subject then checked the blood group type of subject by above procedure. We made list of all subjects with their respective blood group types then asked them one by one in how many days do their nails grow? Then we mentioned number of days in list after their blood group type in list. Total of 172 subjects participated in the study. The subjects were students in Bahauddin Zakirya University Multan, Pakistan.

### **Statistical Analysis**

Statistical analysis was performed by using MS Excel.

## RESULTS

Role of blood group in nail growth is given in Table No 1. B- females have highest mean it means their nail growth is very slow and A- males have smallest mean which means their nail growth is very fast. B- females have slowest nail growth and A-male have fastest nail growth.

Blood Group	Male(mean)	Female(mean)	Male(SD)	Female(SD)
A+	9.66	12.31	3.7	5.22
A-	6	7	0	0
B+	8.55	7.56	15.7	4.17
B-	15	17.33	0	1.24
AB+	9.66	9	6.53	4.52
AB-	No subject	7	No subject	0
O+	8.43	8.57	3.08	3.27
O-	No subject	7.3	No Subject	2.87

**Table No1:** Role of Blood Group in Nail Growth

## DISCUSSION

Questionnaire based studies have given an important advancement in recent researches (3-10). The analysis of the linkage data concerning *ABO* locus and *P* which is nail patella linkage, on the computer made available by the courtesy of Dr F. Yates at Roth Amsted. Experimental Station, is mainly the work of Mr. H. R. Simpson, to whom we are very grateful. We are much indebted to Dr R. R. Race for permission to incorporate in these data material collected by the M.R.C. Blood Group Research Unit.

## CONCLUSION

It was concluded from present study that fastest nail growth is observed in B- females and slowest in A- males.

## REFERENCES

1. Qadir MI, Malik SA (2010) Comparison of alterations in red blood cell count and alterations in hemoglobin concentration in patients suffering from rectal carcinoma undergoing 5-fluorouracil and folic acid therapy. *Pharmacologyonline*, N1 3: 240-243.
2. Qadir MI, Noor A (2018) *Anemias. Rare & Uncommon Diseases*. Cambridge Scholars Publishing. Newcastle, England. ISBN: 978-1-5275-1807-0.
3. Qadir MI, Javid A (2018) Awareness about Crohn's Disease in biotechnology students. *Glo Adv Res J Med Medical Sci*, 7(3): 062-064.
4. Qadir MI, Saleem A (2018) Awareness about ischemic heart disease in university biotechnology students. *Glo Adv Res J Med Medical Sci*, 7(3): 059-061.
5. Qadir MI, Ishfaq S (2018) Awareness about hypertension in biology students. *Int J Mod Pharma Res*, 7(2): 08-10.

6. Qadir MI, Mehwish (2018) Awareness about psoriasis disease. *Int J Mod Pharma Res*, 7(2): 17-18.
7. Qadir MI, Shahzad R (2018) Awareness about obesity in postgraduate students of biotechnology. *Int J Mod Pharma Res*, 7(2): 14-16.
8. Qadir MI, Rizvi M (2018) Awareness about thalassemia in post graduate students. *MOJ Lymphology & Phlebology*, 2(1): 14-16.
9. Qadir MI, Ghalia BA (2018) Awareness survey about colorectal cancer in students of M. Phil Biotechnology at Bahauddin Zakariya University, Multan, Pakistan. *Nov Appro in Can Study*, 1(3): NACS.000514.2018.
10. Qadir MI, Saba G (2018) Awareness about intestinal cancer in university student. *Nov Appro in Can Study*, 1(3): NACS.000515.2018.