

Original article:

Dermatoglyphic patterns in ABO Blood group

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Abstract:

Introduction : Dermatoglyphic patterns have been observed in various diseases associated with chromosomal abnormalities . Ulnar loops were more frequent in CHD. Radial loops also showed significant decrease in CHD. It seems that dermatoglyphic studies in CHD affected cases has not been done in India so far. This study was undertaken with a view to explore this virgin territory.

Material and methods : Present study has been carried out in hundred healthy individuals with age range 18 to 50 years from our students , staff and nonteaching staff members. The study was approved by our research committee. The sample size was estimated with expert from PSM department.

The blood group were determined from Pathology department.

Observations: In our present study 100 healthy individual subjects were involved voluntarily. The present study reveals that there is an association between distribution of finger print (dermatoglyphic) pattern and blood groups .

Conclusion: Present study outlines strong correlation of dermatoglyphics pattern and blood groups.

Introduction

The term Dermatoglyphics was coined by Harold Cummins in 1926. In early foetal life the differentiation of epidermal ridges takes place. They are genetically determined and influenced by physical, topographical and environmental factors.

¹These patterns do not change in an individual throughout his life and no two patterns are alike. The unchanging patterns of the epidermal ridges induced the use of dermatoglyphics for diagnosis of twins, questioned paternity and other hereditary and genetic disorders (Pentose 1969, and Hirsch 1960). Dermatoglyphic patterns have been observed in various diseases associated with chromosomal abnormalities. The present work was carried out to

analyze correlation between blood groups and dermatoglyphics. ²

Material and methods

Present study has been carried out in hundred healthy individuals with age range 18 to 50 years from our students , staff and nonteaching staff members. The study was approved by our research committee. The sample size was estimated with expert from PSM department.

The blood group were determined from Pathology department.

The dermatoglyphic prints were taken using following method:

- 1) Subject were asked to wash their hands with soap and dried so as to remove the dust from the palms.

- 2) Prints were taken on white drawing paper. Kore's duplicating ink was used for taking the prints.
- 3) For smearing the ink special ball was used prepared from cotton, gauze and linen.
- 4) Paper was kept on clear hard surface
- 5) The inked hand was placed on paper.
- 6) At first the palmar aspect of wrist placed firmly on the paper then, all the fingers were firmly pressed on the paper one by one.
- 7) Each finger tip was rolled for getting complete prints.

The prints were studied with the help of hand lens and following parameters were studied:

- 1) Finger tip patterns:
 - a) Whorls
 - b) Arches
 - c) Loops

The prints were studied with the help of above parameters. Observation were then tabulated and analysed.

Observations and results:

Table: Showing distribution of blood group pattern and pattern of dermatoglyphics pattern .

Type of finger print	Blood group A (n= 22)		Blood group B(n=16)		Blood group AB(n= 44)		Blood group O(n=18)	
	Rh+	Rh-	Rh+	Rh-	Rh+	Rh-	Rh+	Rh-
Whorls	11	0	07	1	14	1	8	1
Loop	8	1	6	2	22	4	5	2
Arches	2	0	0	0	2	1	0	2
Total (n= 100)	22		16		44		18	

In our present study 100 healthy individual subjects were involved voluntarily. The present study reveals that there is an association between distribution of finger print (dermatoglyphic) pattern and blood groups .

Discussion:

In our present study 100 healthy individual subjects were involved voluntarily. The present study reveals that there is an association between distribution of finger print (dermatoglyphic) pattern and blood groups .³The general distribution pattern of the primary finger print was of the same order in individuals with A, B, AB and O blood group i.e. High frequency of loops, moderate of whorls and low of arches . The same findings were seen in Rh-

positive and Rh-negative individuals of ABO blood group. The correlation is more consistent for blood group A and loops , arches were more in blood group AB in present study.^{4,5} The distribution pattern in individual fingers had high frequency of loops in thumb and little finger whereas ring fingers had more whorls and index and middle fingers presented higher incidences of arches in subjects of A, B and O blood groups. Individuals of blood group AB had high frequency of whorl in thumb, index and ring finger.⁶

Conclusion:

From present study there is high lightened strong correlation between blood group and pattern of dermatoglyphics.

References:

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