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Palmar Creases among the Hajong of Pasamtala Village, A Tribal Group of Boko Area, Kamrup District, Assam

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Abstract

The present population of Hajong Tribe is represented by either sex palmar flexion creases are genetically governed traits, it is therefore, obvious that the trait has ethnic value. An attempt has been made in this paper to examine the palmar creases of Hajong of Boko area of Kamrup Dist. Assam. Both male (134) and females (60)'s data have been collected randomly from non-related individual and normal persons. The Cummins and Middel (1961) method was used in taking palm prints. In the present classification under single and double radial base crease as main types and S_{II} and D_1 as their sub types, the complete simian crease are seen here. In the other categories of transitional types can also be accommodated in the present classification of the above main types under S_2 , S_3 , S_4 , S_5 , D_2 and D_3 respectively.

Key Words: *Palmar crease, Hajong, Boko, Kamrup District, Assam*

Introduction

In anthropological researches of populations, dermatoglyphics and especially palmar dermatoglyphics of the digito-palmar complex are very often used as biological parameters (Froehlich and Giles 1981). Investigations were made in different populations and sub populations from different parts of the world in order to find out if similarities or differences between populations and sub populations exists (Koby Liansky and Micle 1986). The palmar creases as morphological variable have long been established Palmer flexion creases, like others human traits have effectively been applied in the study of variability. The palmar and planter surfaces of all the human beings are covered by the skin which is continuously corrugated with narrow ridges and is differentiated from other parts of the body. In these areas skin is free from hair and sebaceous glands but there has an abundance of sweat glands, the derma ridges on the palm of the hand form patterns which are the characteristics of an individual as finger prints. The dermal ridges

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are formed during the 13th week of the grooving embryos and there after do not exhibit any morphological change. The only change observed is of dimensions.

The present population of Hajong tribe is represented by either sex. Palmar flexion creases are genetically governed traits; it is therefore, obvious that the trait has ethnic value. An attempt has been made in this paper to examine the palmar creases of Hajong of Boko area of Kamrup District Assam.

Materials and Method

The present study was conducted in Boko area of Kamrup Dist. of Assam. The data have been collected on Hajong tribe of Assam in the month of March 2017 the total palmar dermatoglyphic material consists of bilateral inked impressions of the above mentioned groups. The population selected the Hajong, is a homo generous tribal group represented by both males (134) and females (60) of Boko area of Kamrup Dist. Assam. The data have been collected randomly from the non-related individual and normal persons. The method used in taking palm prints was that of Cummins and Middel (1961)

The Hajong

The Hajong is a important tribal group reside in the South west Kamrup district of Assam. There are many Hajong villages in Boko area. Most of these villages are rehabilitated by the Government. These people migrated to India from East Pakistan during Post-independence period due to India Pakistan conflict and political turmoil

Results and Discussion

In table 1 bisexual and bimanual differentiate of main type of plamer flexion creases shows variability.
In right hand male show higher incidence of single radial base creases (SRBC) I in right hand (15.54) as compared to the left hand (8.51).
In case of females both right and left hand show oven frequencies SRBC shows sexual diphormism by showing higher incidence in males as compared to females. The bilateral differences are more prominent in males as compared to females. In double radial base crease (DRBC) it could be seen that males show again higher incidence as compared to females. In male 74.32 frequencies is seen in right hand and 79.43 in the left hand. There exists a nominal bilateral difference. The DRBC & SRBC in females show a nominal difference the left frequency of DRBC among females is 74.13 and 72.13 in right a left hand respectively. The sexual dimorphism in case of DRBC is striking. It could be seen from the Table that

triple radial base crease (TRBC) shows least frequency as compared with SRBC and DRBC crease type. In case of TRBC the males show dextral dominance. In case of females the frequency TRBC is higher as compared to males.

Table 1 : Bisexual and bimanual distribution of palmar flexion crease

Palmar Crease	Sex	Right		Left		Combine	
		No	P.C.	No.	P.C.	No.	P.C.
SRBC	Male	23	15.54	12	8.51	35	11.90
	Female	8	13.80	8	13.11	16	13.44
DRBC	Male	110	74.32	112	79.43	222	75.51
	Female	43	74.13	44	72.13	87	73.11
TRBC	Male	15	10.13	17	12.05	32	12.58
	Female	7	12.06	9	14.75	16	13.44

In table II shows that male possesses higher incidence of SRBC in the right hand, whereas female shows no bilateral difference. In compared to females, male SRBC is higher in both hands.

Table II : Bisexual and bimanual distribution of SRB

Hand	Male		Female		Total	
	No.	P.C.	No.	P.C.	No.	P.C.
Right	23	65.71	8	50.00	31	60.78
Left	12	34.28	8	50.00	20	39.21
Rt + Lt	35	99.90	16	100.00	51	99.99

In table III Bimanual distribution of sub types of SRBC, is shown for males. In compare to right hand and left hand subtype S₁ show higher incidence. In case of subtype S₂ in male less bimanual variation is evident. Both subtypes S₁ and S₂ along with subtype S₅ show lesser frequency. Subtype S₃ shows highest incidence in right hand and subtype S₄ in left hand as compared to other subtypes. Subtypes S₄ shows second highest frequency as compared to other subtypes in right hand. It is interesting to note that subtype S₅ is absent in left hand.

Table III : Bimanual distribution of subtypes of SRBC : Males

Subtypes of SRBC	Right hand		Left hand		Rt + Lt	
	No.	P.C.	No.	P.C.	No.	P.C.
S ₁	1	3.84	1	8.33	2	5.26
S ₂	2	7.69	1	8.33	3	7.89
S ₃	13	50.00	4	33.33	17	44.73
S ₄	7	26.93	6	50.00	13	34.21
S ₅	3	11.53	-	-	3	7.89

In table IV Distribution of Subtypes of SRBC in females it has been noticed that incidence is rather low among females it is S₂ and S₃ which are represented. It has already been stated that the total number of females are less as compare to males. That is why the incidence of other subtypes is lacking

Table IV Bimanual distribution of subtypes of SRBC : Females

Subtypes of SRBC	Right hand		Left hand		Rt + Lt	
	No.	P.C.	No.	P.C.	No.	P.C.
S ₁	1	3.84	1	8.33	2	5.26
S ₂	2	7.69	1	8.33	3	7.89
S ₃	13	50.00	4	33.33	17	44.73
S ₄	7	26.93	6	50.00	13	34.21
S ₅	3	11.53	-	-	3	7.89

The table V shows the bisexual and bimanual distribution of DRBC & it is emphasized here to examine the bilateral variability. The right hand, left hand differences among DRBC is not much.

Table V : Bisexual and bimanual distribution of DRBC

Hand	Male		Female		Total	
	No.	P.C.	No.	P.C	No.	P.C.
Right	110	49.59	43	49.42	153	49.51
Left	112	50.45	44	50.57	156	50.48
Rt + Lt	222	99.99	87	99.99	309	99.99

In table VI and VII shows the bimanual distribution of subtypes of DRBC males and females. In case of male DRBC subtypes D_1 and D_3 is not represented. The maximum frequency among the subtypes is exhibited by D_4 (right 46.73, left 45.45). The second highest frequency is exhibited by subtype D_5 . The subtypes of DRBC in females are represented by D_3 , D_4 , D_5 and D_6 in (Table VI) the other two subtypes i.e. D_1 and D_2 are both absent in right and left hand. Incidence of D_4 is found to be highest (right 57.14, left 51.06) as compared to other subtypes. In case of D_5 a frequency of 35.71 in right and 38.31 in left hand is noticed. The frequency of D_6 is represented by right and left hand by 4.76 and 8.5, respectively

Table VI : Bimanual distribution of subtypes of DRBC males

Subtypes of DRBC	Right hand		Left hand		Rt + Lt	
	No.	P.C.	No.	P.C	No.	P.C.
D_1	-	-	-	-	-	-
D_2	2	1.86	2	1.81	4	1.84
D_3	-	-	-	-	-	-
D_4	50	46.72	50	45.45	100	46.08
D_5	48	44.85	40	35.45	88	40.55
D_6	7	6.54	18	16.36	25	11.52

Table VII Bimanual distribution of subtypes DRBC female

Subtypes of DRBC	Right hand		Left hand		Rt + Lt	
	No.	P.C.	No.	P.C	No.	P.C.
D ₁	-	-	-	-	-	-
D ₂	-	-	-	-	-	-
D ₃	1	2.38	1	2.12	2	2.24
D ₄	24	57.14	24	51.06	48	53.93
D ₅	15	36.71	18	38.31	33	37.07
D ₆	2	4.76	4	8.5	6	6.74

In table VIII shows the bisexual and bimanual distribution of TRBC type of creases. It is found that left hand shows higher occurrence than that of the right in both males (right 46.87 left 53.12) and females (right 43.75 left 56.20)

Table VIII : Bisexual and bimanual distribution of TRBC

Hand	Male		Female		Total	
	No.	P.C.	No.	P.C	No.	P.C.
Right	15	46.87	7	43.75	22	45.83
Left	17	53.12	9	56.20	26	54.16
Rt + Lt	32	99.99	16	99.95	48	99.99

In the present classification under single and double radial base crease as main types and S₁ and D₁ as their subtypes the complete simian crease according to Buchi (1954) is seen here. In the other categories of transitional types can also be accommodated in the present classification of the above main types under S₂, S₃, S₄, S₅, D₂ and D₃ respectively. The classification of transverse crease adopted by Lestrange (1961)

can easily be accommodated under the subtypes of single radial base crease (S_1 , S_2 and S_3) and subtypes D_1 and D_2 of the double radial base crease in accordance with the present method of classification.

In this type of study more data are needed for any authentic conclusion. Although not without limitations arising from the smallness of sample and operational difficulties, it is modestly hoped that this study would be of help to other workers in the field of dermatoglyphics. But more data are needed for meaningful conclusion.

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