

A Study on Occipital Hair Whorl of Kaibartas of Assam

Ananda Chandra Nath and Bandana Das Devi¹

*Assam Institute of Research for Tribals and Scheduled Castes, Guwahati 781 014, Assam, India
1. Anthropological Survey of India, Shillong 793 001, Meghalaya, India*

KEY WORDS Hair Whorl. Caste. Kaibartas. Assam.

ABSTRACT An attempt has been made to study the whorl on head hair of the Kaibartas of Assam. A comparison is made with other castes and tribes of North East India and Kaibartas are showing intermediate position among Caucasoid and Mongoloid groups.

INTRODUCTION

Whorls are generally occur near the occiput of the head either in clockwise or anticlockwise direction but the later is few. Gates (1961), however, reported that a very few people have with three or more whorls on head hair. Nahse (1936) has opined that double crown and forehead whorls are generally common among idiots than in normal people. Hair whorl occurs predominantly on the right side of the mid sagittal plane (Paul, 1969). The whorls are, generally, genetically determined character. According to Bernstein (1925) the two phenotypic variation, clockwise and anticlockwise, are controlled by a pair of autosomal alleles and the former is being the dominant phenotype. Spuhler (1951) has reported that a reduce penetrance for dominant allele (A) causing the clockwise whorl, so that in the homozygous (AA) and the heterozygous (Aa) genotypic combinations, it is usually associated with a clockwise phenotype.

In North East India a few studies have been made on this trait among Kachari, Rajbanshi (Das, 1959), Pati Rabha (Das, 1956), Suri (Das and Deka, 1960), Kalita (Das and Das, 1967), Ahom, Wancho (Dutta, 1980, 1983) and Kaibarta (Sengupta and Das, 1986).

The Kaibarta ethnically belong to the Caucasoid stock and spread all over Assam. Fishing is their traditional profession along with other occupations like cultivation as a subsidiary source of livelihood.

MATERIALS AND METHODS

Data for the present study were collected from various hamlets in Assam in 1989-90. The sample consists of 330 out of which 180 were male and 150 were female. Chi-square and co-efficient of divergence has been calculated to determine the variation as well as biological distance among the compared groups.

RESULTS AND DISCUSSION

The frequency distribution of whorl on head hair of the Kaibartas in Assam is shown in table 1. It is observed that the single whorl is dominated over the double whorl (92.42% vs 7.58%) among the Kaibartas and single clockwise whorl is more frequent than the single anticlockwise whorl (69.39% vs 23.03%). Considering the sex it is seen that the single clockwise whorl is frequent in females as compared to males (76.67% vs 63.33%), however chi-square test shows statistical not significance differences between males and females ($\chi^2_{(4)} = 7.849, 0.10 > p > 0.05$).

Table 1 : Frequency of whorl on head hair among the Kaibartas of Assam

Sex	No.		Single		Double		
			+	-	++	--	+-
Male	180	No.	114	51	5	3	7
		%	63.33	28.33	2.78	1.66	3.89
Female	150	No.	115	25	5	1	4
		%	76.67	16.67	3.33	0.66	2.66
Total	330	No.	229	76	10	4	11
		%	69.39	23.03	3.03	1.21	3.33

It has been observed from North East India that the frequency of single clockwise hair whorl is high among Kaibartas as compared to Suri (63.81%, Das and Deka, 1960), Rajbanshi

(69.00%, Das, 1959), Pati Rabha (67.5%, Das, 1956) and Wancho (62.10%, Dutta, 1983) but low when compared with Kaibarta (72.90%, Sengupta and Das, 1986), Kalita (75.00%, Das and Das, 1967), Ahom (76.00%, Dutta, 1980) and Kachari (70.60% Das, 1959).

However, statistically no significant differences are observed when the present study is compared with certain Caucasoid and Mongoloid population groups, viz., Suri ($\chi^2_{(4)} = 5.067$, $0.30 > p > 0.20$), Kalita ($\chi^2_{(4)} = 3.596$, $0.30 > p > 0.20$), Rajbanshi ($\chi^2_{(4)} = 7.603$, $0.20 > p > 0.10$), Kachari ($\chi^2_{(4)} = 0.364$, $0.99 > p > 0.98$, Sengupta and Das), and Wancho ($\chi^2_{(4)} = 0.819$, $0.95 > p > 0.90$) except Pati Rabha ($\chi^2_{(4)} = 10.214$, $0.05 > p > 0.02$) where statistical significance is observed.

To find out the statistical similarities and dissimilarities among the eight ethnic groups within Caucasoid and Mongoloid population groups, biological distance have been calculated, using the method co-efficient of divergence (Fig. 1). It reveals that the present sample is more closer to Caucasoid group, viz., Kaibarta (0.033, Sengupta and Das, 1986), Kalita (0.0479), Rajbanshi (0.0504) and Suri (0.0517) than the Mongoloid groups, viz., Kachari (0.05198), Wancho (0.0598), Pati Rabha (0.0618) and Ahom (0.0955). It shows that the Kaibarta is closer to Caucasoids than the Mongoloids.

REFERENCES

- Bernstein, F. : Beitrage zur Mendelistischen Anthropologie II Sitzher, Preuses, Akad. Wiss., 5 : 71-82 (1925).
- Das, B.M. : A study of whorl on head hair of the Pati Rabha. *J. Gauhati University*, 7 : 19-22 (1956).
- Das, B.M. : Whorl on head hair of the Rajbanshis and Kachari. *J. Assam Sci. Soc.*, 3 : 58-60 (1959).
- Das, B.M. and Deka, U. : Physical characters of the Suri of Assam. *J. Gauhati University*, 11 : 87-98 (1960).
- Das, B.M. and Deka, U. : Whorl on head hair of the Kalitas and some other populations in Assam. *J. Assam Sci. Soc.*, 10 : 26-28 (1967).
- Dutta, M.N. : Note sur les tourbillons du vertex Chez les Ahom et D'autres populations de L' Assam. *L'Anthropologie*, 84 : 3 (1980).
- Dutta, M.N. : A note on vertex whorl of the Wancho of Arunachal Pradesh. *Vanyajati*, XXXI : 27-28 (1983).
- Gates, R.R. : *Human Genetics*. Vol. 2. Macmillan Company, New York (1961).
- Paul, Y. : Position of occipital hair whorl, *Anthropologist*, 6 : 1-6 (1969).
- Sengupta, S. and Das, F.A. : A study of whorl on head hair of the Kaibartas and Upper Assam. *J. Assam Sci. Soc.*, 28 : 33-35 (1986).
- Spuhler, J.N. : Some genetic variation in American Indians. In : *The Physical Anthropology of the American Indians*. W.S. Laughlin (Ed.), Ann. Arbor (1951).

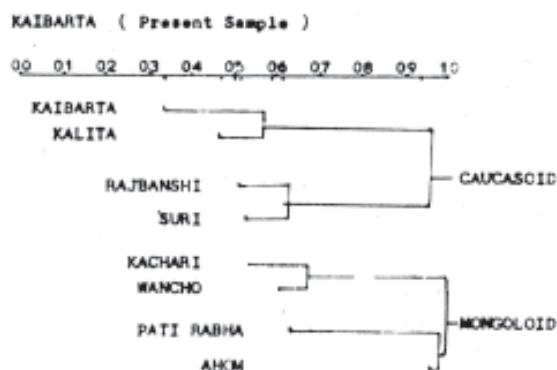


Fig. 1. Biological distances among the Caucasoid and Mongoloid groups of North East India