

Tooth Occlusion Pattern and Cerumen Types Among The Sonowal Kacharis of Assam

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INTRODUCTION

In man, when the mouth is closed normally keeping both the jaws setting closely, in most of the people, the upper incisor overlap the lower ones and fits close to them (mild overbite). Occasionally, in some people the upper incisor bite lower ones edge to edge. In few cases, the upper incisor overlap but never touch lower ones so much so that upper incisor peep out of the mouth when later is closed normally (severe overbite). In extremely rare cases lower incisor reach over the upper ones and thereby masking later ones (negative overbite). The later type often found as family trait.

Cerumen is another important genetic marker whose genetic background is fairly well understood. Studies reveal that two autosomal alleles determine the expression of two phenotypes – dry and wet, with the allele *p* responsible for wet type being dominant over the allele *q* responsible for dry type. Omoto (1974) opined that the recessive dry allele approaches fixation in Mongoloid populations in North East Asia, while the dominant wet allele reaches fixation in European, African and Australian aborigines. High incidence of dry gene among the Mongoloids of North East India has been reported (Das, 1975, 1977; Deka, 1978-1979 and others).

In the present note, an attempt has been made to report the frequency occurrence of tooth occlusion pattern and cerumen types among the Sonowal Kachari of Assam. The present findings are also compared with other Mongoloid populations of North East India.

The Sonowal Kacharis, an endogamous branch of Kachari tribe is a populous plain scheduled tribe of Assam. The Kacharis, who migrated to Brahmaputra Valley, Assam from their original abode in Tibet and Western China in the unknown past is divided into several exogamous divisions such as the Boro, Dimasa, Burman, Hojai, Mech, Thengal, Samsa, etc besides the Sonowal. They belong to the Bodo section of Tibeto-Chinese linguistic family as the tribes like the Rabha, Garo, Lalung, Hajong etc. The Sonowals are mainly concentrated in the districts

of Dibrugarh, Tinsukia, Jorhat, Sibsagar and Lakhimpur.

MATERIAL AND METHOD

The material for the present study were collected from Dainijaan, Dulia, and Lepetkata Kachari villages in Dibrugarh district of Assam. Individuals of both sexes were examined. Cerumen types were determined (dry and wet) by visual examination taken out from the ear canals by small wooden stick. Tooth occlusion pattern were classified following Eveleth's (1972) four fold models.

RESULTS AND DISCUSSION

The frequency of mild overbite type is found to be highest in Sonowal males (46.15%) and shows conformity with the observation made by Eveleth (1972), Sengupta and Chetry (1992) among Nordestino (43.80%) and Dibongiya (41.11%) males. The frequency of this trait among the Sonowal is much low compared to incidence in population groups of Karnataka (Awaradi, 1979) and Delhi region (Malhotra, 1980) which ranges from 79.4% to 100.00%.

The Sonowal female characteristically show a prevalence of edge to edge (44.08%) bite. Chung et al. (1972) reported almost similar moderate frequency among Eskimo (44.0%), Japanese (41.0%) and Chippwa Indians (34.0%) populations. The populations from Karnataka and Delhi region are not in consonance with the present findings, incidence of the trait ranges from 0.95% (Jat) to 18.42% (Karnataka Harijan). In North East India, the Dibongiya female (47.73% ; Sengupta and Chetry, 1992) shows affinity while the Mishing female (80.00% ; Sengupta and Chetry, 1996) stand far apart from the Sonowal in this regard.

The severe overbite type is 19.02% (male = 17.58% ; female = 20.43%) among the Sonowal Kacharis are at variance with the Karnataka population (2.94% ; Awaradi, 1979) as well as Nordestino of Brazil (Eveleth, 1972). They also stand far apart from the Dibongiya (8.21%).

The percentage figures with regard to negative overbite type among the Sonowal males

Table 1: Tooth occlusion pattern among Sonowal Kachari

Sex	No	Edge to edge	Overbite		Negative over bite
			Mild	Severe	
Male (M)	91	34.06	46.15	17.58	2.20
Female (F)	93	44.08	35.48	20.43	—
M+F	184	39.13	40.76	19.02	1.09

(2.20%) shows close similarity with those of Nordestino males (2.50%) as well as Dibongiya (3.33%).

The frequency of cerumen type among Sonowal Kachari is shown in table 2.

Table 2: Cerumen type among Sonowal Kachari

Sex	No.	Dry Cerumen	
		Percent	Gene Frequency
Male (M)	91	73.63	0.8581
Female (F)	93	63.44	0.7965
M + F	184	68.48	0.8275

The recessive dry gene predominates in both the sexes, and the frequency is much higher in males (0.8581) than females (0.7965). This corroborates the earlier findings of Das (1975, 1977) who reports high incidence of dry cerumen gene among the Mongoloids of North East India (varies from 0.720 to 0.922 among males). The high incidence of dry gene among the Sonowal can be compared to similar high frequency of the gene among Kuki (0.902), Kabui (0.906), Hmar (0.906), Mao (0.914), Miri/Mishing (0.916), Ahom (0.922), Ao Naga (0.926), Angami Naga (0.937), Meitei (0.952), Tangkhul (0.972), Vishnupriya (0.979) and Monpa (0.986) of North East India reported by Deka (1978-79) and Chakravarti et al. (1979). The incidence of dry cerumen is also predominant among Korean, Mongol, Chinese and Japanese (c.f. Omoto, 1974).

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ABSTRACT In the present study, an attempt has been made to describe the pattern of tooth occlusion and cerumen types among the Sonowal Kacharis of Assam. The results of the present study are compared with other Mongoloid populations of North East India in order to assess the group difference or similarities.

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