

TONGUE PIGMENTATION AMONG THE DHANGARS OF MAHARASHTRA AND GEORGIANS OF GEORGIA, USSR

K. C. MALHOTRA

Indian Statistical Institute, 205 B.T. Road, Calcutta-700 035

ABSTRACT

The paper reports distribution of tongue pigmentation, an autosomal recessive character, among the Dhangars of Maharashtra and Georgians of USSR. Strikingly the trait is completely absent among the Georgians, while among the Dhangars it depicts a wide range of variation, 7.69% to 21.29%. The available data suggest that the trait decreases in the south-north direction in India and perhaps is confined to tropical areas of the world.

सारांश

जिह्वा पर पाये जाने वाले रंगीनबिन्दुओं का इस देश के जाँजियन्स में तथा महात्वाष्ट्र प्रांत 'धंगार' जातिवासियों में अध्ययन किया गया है। जाँजियन्स नामक समुदाय में यह गुण घटपड़ित है।

Introduction

Tongue pigmentation, i.e. dark spots or patches on the surface of the tongue, were first noticed by Davis (1968). In an extensive investigation Rao (1970a, b, c) studied the genetics of tongue pigmentation. Rao established that the trait is an autosomal recessive character in man, and that the trait is independent of sex and age. Rao also showed that the trait depicted considerable geographical and ethnic variation.

The purpose of this brief communication is to report the distribution of this genetic trait among the 21 endogamous Dhangar castes of Maharashtra. In addition, data on Georgians of Georgia, USSR, collected by the author have also been reported.

Methods and Materials

Altogether tongues of 3,500 Dhangar males belonging to 21 endogamous castes were screened for tongue pigmentation from 210 villages spread over 82 tahsils of all the 26 districts of Maharashtra. A person was scored affected if there was at least a single spot or a patch of any size on the tongue (Rao, 1970b). The names of the groups studied and the sample sizes are presented in Table 1. Further details about the sampling procedures adopted

and description of the castes studied could be found in Malhotra (1979a, b). The Georgian sample of 200 persons (100 males

TABLE 1 — DISTRIBUTION OF TONGUE PIGMENTATION AMONG DHANGARS AND GEORGIANS

POPULATION GROUPS	SAMPLE SIZE	PIGMENTED TONGUES (%)
DHANGARS (Maharashtra)		
Ahir	327	13.76
Dange	192	28.65
Gadhari Dhengar	112	28.57
Gadhari Nikhar	101	23.76
Hande	99	26.26
Haikar	658	21.73
Hattikankan	35	25.71
Kannade	82	14.63
Khatik	159	17.61
Khutekar	517	24.56
Kurmar	106	25.47
Ladshe	122	12.29
Mendhe	178	7.86
Sangar	85	8.23
Shegar	145	28.96
Telangi	92	41.30
Thellari	106	33.96
Unnikankan	68	19.12
Varhade	78	17.95
Zende	160	20.00
Zade	78	7.69
GEORGIANS (USSR)		
Males	100	0.0
Females	100	0.0

and 100 females) was collected at Tbilisi in Georgia, USSR, in 1978.

Results and Discussion

The per cent incidence of pigmented tongues, separately for each group, are set out in Table 1. The trait depicts wide variation in its incidence among the Dhangars; it ranges from 7.69% among the Zade to 41.30% among the Telangi, with a series average of 21.29%. A further classification of the groups in four range categories shows that 16 castes fall in the range of 11 to 30% category, while 3 and 2 castes fall in the categories up to 10% and above 31%, respectively. It is noteworthy that the trait is completely absent among the Georgians.

Rao (1970b) earlier reported incidence of tongue pigmentation among 5 Maharashtra groups — Parsi, C.K.P., Brahmin, Maratha and Mali and in general found a lower incidence than what has been observed among the Dhangars; the Parsis showed the lowest 8.22% and the Malis the highest 20%. The incidence among the Dhangars, in general, agrees well with the Gavdas of Goa (Malhotra, 1978).

It appears, in general, that the incidence of tongue pigmentation decreases in the

south-north direction in the country. Malhotra (1980) observed that the trait ranged from 7.84% to 32.0% (series average being 17.25) among five endogamous groups of Delhi area. Rao (1970b) reported the incidence among Kerala Hindus as 24.24. As noted earlier the trait is absent among the 200 Georgians of USSR.

The available data strongly suggest that the trait is a tropical adaptation, and consequently the Europoids may reveal rather low frequency of the trait. The situation among the mongoloids is not fully understood.

The data are insufficient to generalize the pattern, if any, that may exist among different Indian social groups, although there are suggestions that the tribal groups of central and southern India may depict highest incidence followed by the scheduled castes, the middle ranking castes and the upper castes.

Acknowledgements

I am grateful to Dr B. V. Bhanu, S. B. Khomne, P. Dassan, Miss V. Shirole and Mrs K. Awati, who helped in collection of the data, and to the University Grants Commission, New Delhi, for financial support.

REFERENCES

- Davis, T. A. (1968). *Biology in the tropics*. In *Haldane and modern biology*. Johns Hopkins Press, Baltimore, pp. 327-333.
- Malhotra, K. C. (1978). Microevolutionary dynamics among the Gavadas of Goa. In *Evolutionary models and studies in human genetics*. R. J. Meier et al. eds. Mouton, The Hague, pp. 279-314.
- Malhotra, K. C. (1979a). Qualitative finger dermatoglyphic variation among 21 endogamous Dhangar castes of Maharashtra. *Birth Defects* 16: 335-345.
- Malhotra, K. C. (1979b). Inbreeding among Dhangar castes of Maharashtra, India. *J. Biosocial Sci. (U.K.)* 11: 397-410.
- Malhotra, K. C. (1980). Somatoscopic variation among 5 groups of Delhi. In *Biological anthropology of the people of Delhi*. M. G. Abdushelishvili and K. C. Malhotra eds. Academy of Sciences of USSR, Moscow, pp. 64-77.
- Rao, D. C. (1970a). Tongue pigmentation in man. *Hum. Hered.* 20: 8-12.
- Rao, D. C. (1970b). Genetics of tongue pigmentation in man. *Hum. Hered.* 20: 590-599.
- Rao, D. C. (1970c). Tongue pigmentation in man: a new genetic trait. *Curr. Sci.* 39: 161-162.