CHAPTER 7

High Incidence of Haemoglobin-E in Tribal Populations of Tripura, North East India

Swapan Kumar Das, Madhusnata De, Bani Sengupta, Nikhilesh Das,
Dilip Kumar Bhattacharya and Geeta Talukder

KEY WORDS: Haemoglobin E. Tripura. Haplotype. PCR-ARMS. RFLP-PCR.

ABSTRACT. A large cohort of 840 randomly selected individuals from 12 different tribal groups and a group of 196 tribal school children of Tripura, N.E. India was studied to analyse the incidence and origin of HbE mutation in these populations. $\beta^E$ allele frequency was highest among Mareks (0.5625). In three tribal groups mutant allele frequency was higher than the normal allele frequency of $\beta$-globin gene. Analyses of 30 $\beta^E$ mutation bearing chromosomes shows that this mutation is present only on four different haplotype backgrounds, all linked to framework 2. (5′ +++ $\beta^E$ – 3′) haplotype was most prevalent in the present study group, which indicates the origin of codon 26 (G$\rightarrow$A) as a single mutation in this region. Among the 104 randomly selected individuals of Debbarman tribals of mixed age group $\beta^E$ frequency was 0.4086, while in 196 school children aged 12 to 14 years and belonging to same tribal group $\beta^E$ frequency was 0.4923. This apparent increase in $\beta^E$ frequency cannot be treated as clear-cut indication of selection of mutant allele.

Authors’ Address: Swapan Kumar Das, Madhusnata De, Bani Sengupta, Nikhilesh Das, Dilip Kumar Bhattacharya and Geeta Talukder*, Vivekananda Institute of Medical Sciences, Ramakrishna Mission Seva Pratishthan, 99 Sarat Bose Road, Kolkata 700 026, West Bengal, India
Fax No. 91-33-475-4351 E-mail: geetatalukdar@hotmail.com
*Author for correspondence

©Kamla-Raj 2002
Anthropologist Special Issue No. 1: 105-108 (2002)
Anthropology: Trends and Applications
M.K. Bhasin and S.L. Malik, Guest Editors