



© *Kamla-Raj* 2003

PRINT: ISSN 0972-3757 ONLINE: 2456-6360

Int J Hum Genet, 3(4): 209-216 (2003)

DOI: 10.31901/24566330.2003/03.04.04

Clinical and Hematological Profile of Hemoglobinopathies in Two Tribal Communities of Sundargarh District in Orissa, India

R. S. Balgir, R. K. Mishra and B.Murmu

*Division of Human Genetics, Regional Medical Research Centre (ICMR),
Chandrasekharpur, Nandan Kanan Road, Bhubaneswar 751 023, Orissa, India*

KEYWORDS Sick cell disease, hemoglobin E trait, Beta-thalassemia trait; clinical picture; hematological profile; tribal communities; Orissa state; India

ABSTRACT Tribal communities constitute a major chunk of population in India. They are vulnerable to many hereditary disorders of erythrocytes. Hemoglobinopathy is one of them. The present study has been carried out in Bhuyan and Kharia tribes of Sundargarh district in Orissa state. Following the probability proportionate to size (PPS) cluster sampling procedure, a total of 1002 blood samples of tribal subjects (244 Bhuyan and 758 Kharia) were screened for different hemoglobinopathies. Laboratory analyses were carried out taking the complete hemogram, performing NESTROFT and sickling test, hemoglobin electrophoresis, estimation of fetal hemoglobin and of A₂ fraction of adult hemoglobin following the standard procedures. Study showed the high prevalence of hemoglobinopathies (13.1%) in both Bhuyan and Kharia tribe. For the first time, hemoglobin E has been detected in a tribal population, i.e. Delki Kharia in the state of Orissa. Except beta-thalassemia trait, no other hemoglobinopathy was detected in Dudh Kharia tribe showing their genetic isolation from Delki Kharia. The over-all prevalence of different grades of anemia is much higher in Bhuyan tribe (89.9%) than in Kharia tribe (73.8%). The clinical and hematological picture of sickle cell disorders in the present study is consistent with the previous studies from Orissa. It is interesting that as we move from lower age categories to higher age categories, the number of cases of hemoglobinopathy goes on decreasing in both Kharia and Bhuyan tribes under natural environmental conditions showing probably age specific mortality. These findings have been discussed in the light of previous studies available from the state of Orissa.

[Home](#)

[Back](#)