

97 Examination of 146 South Indian Aborigines for Hæmoglobin Variants. By Dr. H. Lehmann, St. Bartholomew's Hospital, London, and P. K. Sukumaran, Human Variation Unit, Indian Cancer Research Centre, Bombay

It is now an accepted fact that some of the aboriginal communities of Southern India possess the sickling gene (Lehmann and Cutbush, 1952; Büchi, 1955; Foy, Brass and Kondi, 1956). The presence of the sickle-cell hæmoglobin has been demonstrated by the sickling test. In this procedure the red cells are deoxygenated and the reduced sickle-cell hæmoglobin being sparingly soluble forms intra-cellular tactoids. These tactoids are responsible for the bizarre shape of the 'sickle' cell. Sickle-cell hæmoglobin can also be demonstrated by an electrophoretic analysis of the hæmoglobin, and this technique has led to the discovery of other hæmoglobins which cannot be identified in any other way.

In India hæmoglobin *D* has been found in Sikhs and Punjabi Hindus (Bird and Lehmann, 1956) and in Gujeratis (Jacob,

the sickling gene, but hæmoglobin *E* was found in six of 167 examined (Aksoy, Bird, Lehmann, Mourant, Thein and Wickremasinghe, 1955).

It was thus of interest to submit to electrophoresis the blood of aborigines from Southern India. Non-related individuals numbering 146 were examined. All samples were tested for sickling, and it was confirmed again that this phenomenon occurs among the Badagas, Irulas, Kurumbas and Todas. In all instances where the sickle-cell test was positive electrophoretic analysis showed the hæmoglobin to be a mixture of sickle-cell and normal adult hæmoglobin. No variants of normal adult hæmoglobin other than sickle-cell hæmoglobin were discovered.

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TABLE I. HÆMOGLOBIN IN THE NILGIRIS

Community	No. Examined	Sickling Test Positive	Hæmoglobin	
			Normal Adult Hæmoglobin Only	Mixture of Normal Adult and Sickle-Cell Hæmoglobins
Badaga	30	2	28	2
Irula	18	4	14	4
Kotha	22	0	22	0
Kurumba	26	7	19	7
Toda	50	1	49	1

Lehmann and Raper, 1956). Hæmoglobin *E* was first discovered in a child whose father was of part Indian origin, and was later found in that father also (Itano, Bergren and Sturgeon, 1954; Sturgeon, Itano and Bergren, 1955). The Veddads of Ceylon who are related to the Veddoids of Southern India do not possess