

Sickle Cell Anemia In India And Africa

C Winters

Citation

C Winters. *Sickle Cell Anemia In India And Africa*. The Internet Journal of Hematology. 2010 Volume 7 Number 2.

Abstract

Linguistic archaeological and anthropological evidence suggest that Africans and Indian tribal groups share many features. In this paper we examine the relationship between sickle cell anemia in India and Africa.

SICKLE CELL ANEMIA IN INDIA AND AFRICA

Researchers have detected a relationship between blood groups among Indian tribal populations and Africans (Aravanan, 1976,1980). In addition Indian tribal groups share many physical features with African groups like the Fulani (Aravanan, 1976,1979,1980). This is most interesting because the HLA system provides us with a means to define the relatedness of varying ethnic groups.

The Dravidian people share cultural and linguistic features with Africans (Sergent,1992; Winters 2007,2008). The archaeological evidence suggest that the Dravidian people belonged to the C-Group people of Nubia and migrated to India 5kya (Lal, 1963; Winters, 2008).

Dravidian speaking tribal groups share similar health problems as their African counterparts. Indian tribal groups have a high prevalence of the genetically transmitted sickle cell disorder (Mohanty, 1998; Kate, 2000). The sickle cell disorder is primarily found among the Kadaro, Irula and Pularya tribal populations (Aravanan, 1976,1980).

The sickle cell disorder is an important indicator of a possible relationship between Dravidian speaking tribal groups and Africans since it is a hereditary blood disorder resulting from a defective hemoglobin state. It has two forms homozygous (suffer) and heterozygous (carrier).

The distribution of sickle cell among tribal populations in India vary. But in many states the prevalence of sickle cell can range among the tribal population from between 10% -35% of the population (Kate, 2000). On average, if we look at the state of Maharastra, for example, as many as 10% can be carriers and 5% suffers (Kate,2000).

There are a number of similarities between African and Indian sickle cell anemia especially in relation to the sickle

cell common among Fulani. The Fulani people live throughout Africa. Linguist have reported that the Fulani and Dravidian languages are genetically related (Winters, 2007, 2008).

Sickle cell anemia is named after the geographical region in which it is found. African tribal groups and Africans share Arab-India, Benin, and Senegal sickle cell anemia (Bain, 2006). The Senegal and Indian sickle cell share haplotypes (Rahimi et al, 2003). The Arab-Indian and Senegal haplotypes share the C!T mutation at position -158 (Bain, 2006; Rahimi et al, 2003).

The reality that sickle cell is found mainly among the Indian tribal groups which have rarely interacted with outsiders make it clear that it was probably carried to India when Dravidians migrated from Nubia to South India (Winters,2008). It is interesting that the Arab-Indian and Senegal haplotypes are both associated with a C!T mutation at position -158. This is further conformation of the African origin of the Dravidians because it is in the Senegal area that we also find a large number of Fulani.

References

1. Aravanan, K P , 1976. Physical and cultural similarities between Dravidians and Africans", Journal of Tamil Studies 10, 23-27.
2. Aravanan, K P. 1979. Dravidians and Africans , Madras.
3. Aravanan,K.P. 1980. Notable negroid elements in Dravidian India. Journal of Tamil , 11:20-45.
4. Barbara B. (2006). Haemoglobinopathy Diagnosis, Wiley-Blackwell .
5. Lal BB. 1963. "The Only Asian Expedition in threatened Nubia: Work by an India Mission at Afyeh and Tumas". The Illustrated Times, London 20 April.
6. Kate, SL.(2000). Health Problems of Tribal Population Groups from the State of Maharashtra, Immunohaematology Bulletin. Retrieved December 18 2009 : http://sickle.bwh.harvard.edu/india_scd.html
7. Mohanty,D.(1998). Sickle Cell Anemia, The Indian Scenario, Ind. J. Hematol., 16 (1): 1.

8. Rahimi Z, M. Karimi, M. Haghshenass, A. Merat .(2003).Globin gene cluster haplotypes in sickle cell patients from southwest Iran, American Journal of Hematology, 74 (3):156-160
9. Sergent , B. 1992. Genèse de L'Inde. Paris: Payot .
10. Winters ,CA.(2007). Did the Dravidian Speakers Originate in Africa? BioEssays,27(5):497-98.
11. Winters,CA. 2008. Origin and spread of Dravidian speakers. International Journal of Human Genetics, 8(4), 325-329.

Author Information

Clyde Winters

Lecturer, Governors State University