

The Ancient Indian Populations Were Not Homogenous

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Abstract: Today many researchers maintain that the Dravidian and Aryan people of India are native to India. Recent genetic research relating to SNPs indicates that Dravidian and Indo-European speakers are heterogeneous genetically and that Indo-European speakers probably recently migrated into India from central Asia.

Key words: Archaeogenetics, Aryan, dravidian, genome

INTRODUCTION

As a result of genetic research many researchers believe that the Aryan and Dravidian speaking people are a homogenous population (Rajkumar *et al.*, 2005; Thangaraj *et al.*, 2006). These researchers believe that the colonialist invented the idea that there was an invasion of India by Indo-Aryan speakers and that the Aryan speaking Indians are the result of in situ origination (Rajkumar *et al.*, 2005; Thangaraj *et al.*, 2006).

This idea of *in situ* origination of Dravidian and Aryan speaking people researchers claim is supported by genetic evidence. Although this is the opinion of these researchers whole genome analysis of India populations identified by the languages they speak indicate a genetic foundation for the population diversity found in ancient and modern India (IGVC, 2008).

Ray and Excoffier (2009) argue that to build a reliable model of population dispersal researchers must combine genetic data and archaeological (or historical and linguistic) data. Using the method of research advocated by Ray and Excoffier (2009) demands that we reconsider the origin of the Dravidian and Aryan populations of India.

The methods of Ray and Excoffier (2009) are in conformity with basic archaeogenetic research methods. The Archaeogenetic method suggest that coupling the archaeological data with genetic data is a powerful way to infer population migration.

METHODOLOGY

In this study we reviewed the Indian genetic literature base at the Uthman dan Fodio Institute to determine the genetic relationship between Indian populations. The genomic data was compared to the anthropological, linguistic and archaeological data to study the relationship between Dravidian and Indo-European speaking Indian populations.

RESULTS

Geneticists maintain that the Dravidian speakers are aboriginal to India (Rajkumar *et al.*, 2005; Thangaraj *et al.*, 2006). These researchers base this conclusion solely on the analysis of genetic data. They support this view by showing how the Indian mtDNA belonging to the M haplomacrogroup must have developed in situ in India (Rajkumar *et al.*, 2005). The alleged indigenous origin of the Dravidian and Aryan people led Rosenberg *et al.* (2006) to argue that there is a low level of genetic divergence across geographically and linguistically diverse Indian populations based on their analysis solely of Indo-Aryan and Dravidian speakers from India.

Use of genetic evidence alone to inform population movements in India conflicts with the proper population genetic method advocated by Ray and Excoffier (2009). This is especially true when the genetic data is incongruent with the archaeological data. This is what makes the archaeogenetic method to study ancient population movements a powerful tool to determine ancient Indian demographics.

Researchers have noted the absence of congruency between Indian population genetics and archaeological research (Tripathy and Reddy, 2008) As a result research into India population studies are not supported by historical, archaeological and linguistic evidences (Winters, 2008). The archeological evidence indicated that the first settlers of India were probably Negritos and Austro-Asiatic, then Dravidian speakers and finally Southeast Asians (Cordaux *et al.*, 2003; Kumar *et al.*, 2007).

The HUGO Pan-Asian SNP Consortium (HPASC, 2009) (Mapping Human Genetic Diversity in Asia) Indian Genome Variation Consortium (IGVC, 2008), and has done much to bring the genetic data for India in line with the archaeological, anthropological and linguistic data. The IGVC (2008)

study of Indian populations found statistically significant patterns of genetic differentiation between Indian populations. In this study the researchers noted that the genetic evidence demonstrated genetic heterogeneity between Dravidian and Indo-European speaking populations (IGVC, 2008). Overall, IGVC (2008) made it clear that ethnicity and language are major determinants of genetic affiliation in India.

This study by HPASC (2009) contradicts Rosenberg *et al.* (2006) and supports the view that the Indian populations are not homogenous and that Negrites were probably the first settlers of India. This corresponds to earlier research using multiple methods to detail the ancient population of India (Cordaux *et al.*, 2003; Kumar *et al.*, 2007; Winters, 1989, 2007, 2008).

Using an Indian sample from India, HPASC (2009) acknowledges that the Dravidians were probably not the first population to settle India. The research of HPASC (2009) also supports an Indo-European migration into India.

Reich *et al.* (2009) also found heterogeneity between Dravidian and Indo-European speakers. In the largest study of Indian heritage based on DNA, Reich *et al.* (2009) found two distinct lineages he divided into Ancestral North Indians and Ancestral South Indians. These researchers found that ANI presented Middle Eastern, Central Asian and Indian genetic variation, that was distinct to the Dravidian (ASI) heritage (Reich *et al.*, 2009).

CONCLUSION

The research of Reich *et al.* (2009), IGVC (2008) and the HPASC (2009) finding are supported by linguistic and archaeological evidence that indicated a Dravidian substratum in the Indo-Aryan languages (Winters, 1989). The major reason for the differences between the Rosenberg *et al.* (2006) study, and the studies of Reich *et al.* (2009), IGVC (2008) and HPASC (2009) was that the sample used by Rosenberg *et al.* (2006) included only Indo-Aryan and Dravidian speakers in the United States as a representative sample of diverse Indian populations. This was a poor sample because it did not provide an accurate sample of the linguistic and geographical diversity of Indian populations. Rosenberg *et al.* (2006) failed to detect that given the Dravidian substratum in Indo-Aryan languages the TMRCA of the Indo-Aryan and Dravidian speakers in India was probably a Proto-Dravidian speaker; and that there existed a high level of genetic divergence across Indian populations (Winters, 2007). A shared MRCA for Dravidian and Indo-Aryan speakers, is supported by the Dravidian substratum in Indo-European languages which indicates that the speakers of these languages lived in

intimate contact in North India for 1000s of years (Winters, 1989).

The finding of heterogeneity within and between ancient Indian populations places the genetic data in conformity with the archaeological and linguistic data. This provides knowledge into ancient Indian population relationships and suggests future studies which will provide keen insight into the ancient human demography in India. It also graphically illustrates how the archaeogenetic model of research in ancient population demographics gives us a powerful tool to understand past population movements.

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