

3rd International Conference on Clinical Microbiology & Microbial Genomics

September 24-26, 2014 Valencia Convention Centre, Spain

Exploring the short interspersed nuclear elements for genotyping *Entamoeba histolytica*

Jaishree Paul, Vandana Kumari, Shweta Srivastava and Sudha Bhattacharya
Jawaharlal Nehru University, India

Enteric protozoa continue to be the most commonly encountered parasitic diseases and to cause significant morbidity and mortality throughout both developed and developing regions of the world, affecting millions of people each year. The major etiological agents of parasitic diarrhea are considered to be *Entamoeba histolytica*, *Cryptosporidium spp.*, and *Giardia intestinalis*. India is an endemic country for amoebiasis causing a great morbidity and mortality. In order to determine the extent of genetic diversity among *Entamoeba* strains leading to different phenotypes, we hypothesized that the virulence may be linked to genotype. Therefore, we have looked at the genomic distribution of the retrotransposable short interspersed nuclear elements. Due to their mobile nature, some EhSINE copies may occupy different genomic locations among isolates of *E. histolytica* possibly affecting adjacent gene expression. This variability in location was exploited to differentiate strains both from axenic and xenic isolates using PCR based methods and Transposon display technique that generates large number of genomic bands associated with a transposon. Insertion polymorphism of EhSINEs was detected bioinformatically by comparing the genomic location of all full length copies in the virulent strain HM-1:IMSS and also in the non virulent strain Rahman. Three loci were selected and experimentally verified which were differentially amplified in the virulent and non virulent strains. These were further validated in clinical isolates suggesting that SINE elements can be used as diagnostic marker for large scale epidemiological studies.

Biography

Jaishree Paul completed PhD in 1981 and presently is a scientist and a Professor of Microbiology in the School of Life Sciences, Jawaharlal Nehru University, New Delhi, India. She has 48 research papers in peer reviewed journals and 6 chapters in books. She is a recipient of FLU foundation and EMBO fellowship for attending and presenting her contribution in the International conferences. Her research interests are epidemiology of parasites causing diarrheal diseases, interplay between gut bacteria during inflammatory bowel disease, Functional analysis and SNP studies of susceptible genes of IBD. She is a premier member of ASM.

jpaul33@hotmail.com