Abstract

Background and Objective: The Plasmodium falciparum EBA-175, via Sialic acid dependent glycophorin A, binds to red blood cells and thus plays a critical role in cell invasion. Some part of second allele in its gene encoding in FCR-3 (Section F) and CAMP (Section C) can be found. This study aimed to determine the prevalence of Plasmodium falciparum EBA-175KD alleles in southeastern Iran.

Material and Methods: In this cross-sectional study, using polymerase chain reaction Nest (Nested-PCR) with specific primers was used for the two parts of the EBA-175 gene to be proliferated. Ninety-four microscopic positive blood samples from individuals infected by Plasmodium falciparum were obtained from four different locations in southeastern Iran.

Results: Of 94 positive samples, 88 were antigen EBA-175KD. Genotype CAMP (714 bp) and FCR-3 (to 795 bp), respectively, in 31 (32.97 %) and 49 (52.12 %) were found. Eight samples have both FCR-3 and CAMP.

Conclusion: Both of EBA-175KD dimorphic genes were found. The frequency of FCR-3 allele was higher in the South East of Iran. Thus, this pattern can be considered in making Plasmodium falciparum vaccines for this area.

Key words: Plasmodium Falciparum; Erythrocyte Binding Antigen-175; South-East of Iran