USE OF PCR TECHNIQUE TO DETECT HUMAN RICKETTSIA AND EHRLICHIAL PATHOGENS IN IXODID TICKS

SITHY AYESHA USOOF

Department of Biochemistry and Molecular Biology
Postgraduate Institute of Science,
University of Peradeniya,
Peradeniya,
Sri Lanka

This study was carried out to identify the Ixodid vector species for human rickettsial infection in Sri Lanka. Ixodid ticks were received from Kandy, Kegalle and Anuradhapura districts. A total of 85 tick samples were selected for this study. Adult ticks identified as *Amblyomma, Aponomma, Ripicephalus* and *Haemophysalis* species. All samples were subjected to nested PCR using specific primers for spotted fever group and Ehrlichia species in order to identify the vector species. *17*-kDa gene and part of the VLPT gene were amplified to detect Spotted fever group and Ehrlichial species respectively.

Total of five tick samples were shown PCR amplicons in 208bp size and it was comparable to positive control samples of SFG. One Aponomma species collected from Pangolin and four Amblyomma species collected from Monkeys in Anuradhapura districts showed positive results for SFG. Further one Aponomma species collected from Pangolin showed positive PCR band for Ehrlichia species.

This is the first time that rickettsial pathogens were identified in hard ticks in Sri Lanka and it was revealed that SFG rickettsial species and Ehirlichia species can be transmitted by wild population of tick species such as Amblyomma and Aponomma species which collected from Pangolin and Monkeys.