

PARASITOLOGY

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Finding of different *Plasmodium* spp., in blood samples by polymerase chain reaction in Karachi, Pakistan

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Vector-borne diseases are widespread throughout the world. Malaria is still one of the chief vectors-borne diseases and fear for millions of people due to deprived health conditions throughout the world. The comparative investigation of different species of *Plasmodium* was conducted in different areas of Karachi, Pakistan, based on finding and identification of *Plasmodium* species in blood smears and finding of species specific parasite DNA in a blood samples using a PCR method for the comparison. The determination and comparison of high frequency of *Plasmodium* species was made by microscopic examination and circum sporozoite gene extracted from the blood samples which were collected from 250 patients between the age of 5-60 males (148) and females (102) with high temperature and severe headache complains, residing in Karachi, Pakistan during one year. The blood was directly taken by pricking finger onto a slide. Microscopic test (oil immersion objective at 1000 x magnification) was performed with Giemsa stained thick and thin blood smears whereas PCR was performed on dried blood removed from the slides and filter papers used for species specific parasite deoxyribonucleic acid (DNA) amplification by the polymerase chain reaction (PCR). Out of 250 Giemsa stained slides 63 were positive for malaria parasites in which 39 and 17 were identified as a *P. vivax* and *P. falciparum* infections respectively; whereas 07 were having mixed infections of *P. vivax* and *P. falciparum* examined by microscopy and *P. vivax* (34), *P. falciparum* (18) and 11 mixed infections through the PCR. The recent investigation revealed that, the nested PCR is more effective and helpful; it can be successfully applied for the finding of *P. vivax* and *P. falciparum* particularly in highly infected areas.

Biography

Syeda Azra Qamar has completed her PhD from the University of Karachi, Pakistan. She is currently working as an Associate Professor at the Department of Zoology, Government College for Women Shakra-e-Liaquat, Karachi, Pakistan. She has also accomplished BDV course from Mexico in 2003, First International Training Course on Functional Genomics Applied to Insect Vectors of human diseases from Thailand in 2005 and Practical short course on Infectious Disease Modeling from Thailand in 2012 organized by Oxford University. She is serving as a Reviewer for journal articles and also as Member of Editorial Board. She has published 10 papers in reputed journal.

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