Epidemiology

PO - (8418) - NEW MALARIA EPIDEMIOLOGY IN COASTAL LAGOON OF BENIN: PLASMODIUM INFECTION IN ANOPHELES MELAS.

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Introduction: Malaria is a worldwide disease affecting many people particularly in the tropical and sub-tropical areas. It is caused by Plasmodium parasites and essentially transmitted by female mosquitoes belonging to Anopheles genus. Our understanding of the infectivity of these vectors to Plasmodium is necessary for design sustainable strategies for their control. This aspect remains unknown in the coastal and lagoon area of Benin where Anopheles melas and Anopheles coluzzii are sympatric. This study aims to investigate the infectivity of these two vectors to Plasmodium in order to understand their role in malaria transmission inSouthern Benin.

Methods: Insecticides spray catches technique was used to collect females in 80 houses randomly selected in our study site. Three hundred and twenty females were identified using PCR-species technique, Plasmodium infection was determined by the TaqMan method during the dry season. This assay detects all four malaria-causing species and discriminates Plasmodium falciparum from Plasmodium ovale, Plasmodium vivax and Plasmodium malariae (OVM).

Results: During the dry season, the sporozoite rates were 0.2% and 0.3% for Anopheles melas and Anopheles coluzzii, respectively. However, we observed that positivity to the OVM (one of Plasmodium ovale, Plasmodium vivax and Plasmodium malariae species) was significantly higher in Anopheles melas (95 %) than in Anopheles coluzzii (33.33 %) (Chi-sq = 15 857, df = 1, p <0.001). These results indicated that Anopheles melas is more infected by one of the species Plasmodium ovale, Plasmodium vivax and Plasmodium malariae than by Plasmodium falciparum, contrarily to Anopheles coluzzii.

Conclusion: These findings reinforce the debate on the role of Anopheles melas in malaria transmission in coastal lagoon areas of Benin.

Keywords: Anopheles melas, Infectivity, Malaria.