Medical Xpress

Superbug's spread to Vietnam threatens malaria control

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A highly drug resistant malaria 'superbug' from western Cambodia is now present in southern Vietnam, leading to alarming failure rates for dihydroartemisinin (DHA)-piperaquine—Vietnam's national first-line

malaria treatment, leading malaria scientists warn.

The spread of this dominant artemisinin drug resistant P falciparum C580Y mutant malaria parasite lineage across the entire Mekong Sub-region is a serious threat to malaria control and eradication efforts, the scientists say in a letter published today in *The Lancet Infectious Diseases*.

"A single mutant strain of very drug resistant malaria has now spread from western Cambodia to north-eastern Thailand, southern Laos and into southern Vietnam and caused a large increase in treatment failure of patients with malaria," says letter co-author, Professor Arjen Dondorp, Head of Malaria and Deputy Head of the Mahidol Oxford Tropical Medicine Research Unit (MORU) in Thailand.

"This could result in an important increase in malaria transmission in these countries and severely jeopardise their malaria elimination efforts," said Professor Dondorp. "We hope this evidence will be used to reemphasise the urgency of malaria elimination in the Mekong sub-region before falciparum malaria becomes close to untreatable."

The spread of artemisinin resistance in Plasmodium falciparum and the subsequent loss of partner antimalarial drugs in the Greater Mekong sub-region presents one of the greatest threats to the control and elimination of malaria, the letter authors say.

"We are losing a dangerous race. The spread of this malaria "superbug" has caused an alarming rise in treatment failures forcing changes in drug policy and leaving few options for the future," said said letter co-author and Mahidol and Oxford University Professor Sir Nicholas White. "We need to tackle this public health emergency urgently."

Michael Chew from Wellcome's Infection and Immunobiology team

said: "The spread of this malaria "superbug" strain, resistant to the most effective drug we have, is alarming and has major implications for public health globally. Around 700,000 people a year die from drug-resistant infections, including malaria. If nothing is done, this could increase to millions of people every year by 2050. Efforts to help track resistance to drugs are vital for improving diagnosis, treatment, and control of drug resistant infections."

More information: Mallika Imwong et al. Spread of a single multidrug resistant malaria parasite lineage (PfPailin) to Vietnam, *The Lancet Infectious Diseases* (2017). DOI: 10.1016/S1473-3099(17)30524-8

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