

Safety doubts unwarranted, important anti-malarial drug is safe to use, study finds

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Credit: ResearchSEA

One of the world's most widely used anti-malarial drugs is safe to use, say researchers, after a thorough review and analysis of nearly 200,000

malaria patients who'd taken the drug dihydroartemisinin-piperaquine (DHA-PPQ).

There is such a low risk of [sudden unexpected death](#) from DHA-PPQ, one of the world's most effective medicines to treat malaria, that there is no need to limit its current use, the researchers say in a study published today in *The Lancet Infectious Diseases*.

"There had been some concerns that DHA-piperaquine could be toxic for the heart. This very large study provides reassurance about the safety of one of our most important antimalarial drugs," said study senior author University of Oxford Prof Sir Nick White, Chairman of the Wellcome Trust Southeast Asia Research Units.

Used to treat *P. falciparum* and *P. vivax* malaria in Africa and Asia and in large-scale pilot programmes to eliminate malaria, DHA-PPQ is a highly efficacious and well-tolerated oral artemisinin combination treatment (ACT) medication that is on the WHO's List of Essential Medicines. Although DHA-PPQ has been used to treat more than 5.4 million people since its use was approved in Europe in 2011, there were concerns its use could lead to potentially lethal heart arrhythmias and sudden cardiac [death](#).

After carefully examining 96 studies, totalling 197,867 people who'd taken DHA-PPQ, researchers found one potentially drug-related sudden death. They concluded that the risk of sudden unexplained death after DHA-PPQ was no higher than the baseline rate for sudden cardiac death in the general population – and therefore that there was no reason to limit the use of DHA-PPQ.

"This analysis of almost 200,000 malaria patients treated with DHA-piperaquine provides the definite answer and reassuring message that the cardiac effects of piperaquine are not related to life threatening cardiac

events and that DHA-PPQ is very safe to use," said University of Oxford Prof Arjen Dondorp, Deputy Director and Head of Malaria of the Bangkok-based Mahidol Oxford Tropical Medicine Research Unit (MORU).

"This study is important: It clearly shows no evidence of increased cardiac mortality associated with DHA-piperaquine therapy in large population studies. It certifies the safety of using DHA-PPQ as a preventive strategy. The next step should be prospective studies to confirm these very reassuring results," said cardiologist and study co-author Prof Josep Brugada of the University of Barcelona.

The study results were hailed by people active in the global fight against [malaria](#), a parasitic disease transmitted by mosquitoes that killed 445,000 people in 2016, most of them children in Africa.

Michael Chew, from Wellcome's Infection and Immunobiology team, said: "DHA-PPQ is one of the most effective and widely used anti-malarial drugs we have today, and concerns it could lead to abnormal heart rhythms risked limiting its use and impact. This important study confirms that this drug is safe to use, as the risk of [sudden cardiac death](#) in patients not higher than in the general population."

More information: Pere Millat-Martínez et al. Reappraising the cardiosafety of dihydroartemisinin-piperaquine, *The Lancet Infectious Diseases* (2018). [DOI: 10.1016/S1473-3099\(18\)30360-8](https://doi.org/10.1016/S1473-3099(18)30360-8)

Risk of sudden unexplained death after use of dihydroartemisinin–piperaquine for malaria: a systematic review and Bayesian meta-analysis. *The Lancet Infectious Diseases*, DOI: [doi.org/10.1016/S1473-3099\(18\)30297-4](https://doi.org/10.1016/S1473-3099(18)30297-4)

Provided by Mahidol Oxford Tropical Medicine Research Unit

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