

New evidence supports radical treatment of widespread form of malaria

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This thin film Giemsa stained micrograph reveals a mature Plasmodium vivax trophozoite. P. vivax trophozoites show amoeboid cytoplasm, large chromatin dots, and fine, yellowish-brown pigment. RBCs are enlarged 1 1/2 - 2X, and may be distorted. If visible, Schüffner's dots may appear finer than those seen in P. vivax. Credit: CDC/ Steven Glenn

Darwin, Australia: A team of malaria experts from a large international research collaboration has published results supporting the need for a radical cure strategy to tackle one of the most debilitating forms of malaria caused by the *Plasmodium vivax* parasite.

Vivax malaria affects more than 13 million people each year, with an estimated 40% of the world's population at risk of contracting the infection across all continents from South America to South-East Asia. In some regions *P. vivax* has become resistant to standard treatment with



<u>chloroquine</u>. The problem is compounded by vivax's ability to lie dormant in the liver for long periods of time before causing recurrent infections that have an enduring impact on people's lives and livelihoods.

Led by a team at Menzies School of Health Research in Australia, the study has assembled individual patient data from clinical trials conducted since 2000, investigating the effect of chloroquine dosing, combined with the partner drug primaquine, and the risk of recurrent malaria across different settings. The study published today in the international journal *The Lancet Infectious Diseases* is the result of a collaboration between more than 50 international researchers under the auspices of the Worldwide Antimalarial Resistance Network (WWARN).

"Our findings highlight the substantial benefit of a modest increase in the dose of chloroquine in children aged under 5 years and the importance of combining primaquine with chloroquine to have a better chance of curing patients." explains Dr. Rob Commons, Ph.D. student at the Menzies School of Health Research and part of the WWARN Clinical Group.

"This analysis of more than 5,000 patients from 37 studies, across 17 countries, is the largest individual patient data meta-analysis of *P. vivax* <u>clinical trials</u> to date. Our results show chloroquine is currently given in lower doses than recommended, with as many as 35% of patients in trials given less than the WHO recommended 25 mg/kg. We also know from our analysis that these patients are more likely to fail treatment" confirms Dr. Commons.

"The study highlights the need for clinicians in affected areas to provide radical cure to kill the blood and liver stage of the vivax parasite and ensure patients can recover quickly. We also want to prevent transmission of the parasite to other people and reduce the global burden of this disease" adds Professor Ric Price, Head of the Clinical Group at



the Worldwide Antimalarial Resistance Network (WWARN).

"This research team has highlighted some important potential adjustments are needed to ensure all <u>patients</u>, especially small children, are given the best chance of recovery from vivax malaria." concludes Prof Kevin Baird, Head of the Eijkman-Oxford Clinical Research Unit (EOCRU) in Jakarta, Indonesia.

The effect of chloroquine dose and primaquine on Plasmodium vivax recurrence: a WWARN systematic review and individual patient pooled meta-analysis. The Lancet Infectious Diseases. THELANCETID-D-18-00317R1.

More information: Robert J Commons et al, The effect of chloroquine dose and primaquine on Plasmodium vivax recurrence: a WorldWide Antimalarial Resistance Network systematic review and individual patient pooled meta-analysis, *The Lancet Infectious Diseases* (2018). DOI: 10.1016/S1473-3099(18)30348-7

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