Dihydroartemisinin–piperaquine holds promise as an option for malaria prevention in pregnancy

Jenny Hill, Feiko O ter Kuile

Liverpool School of Tropical Medicine, Liverpool, UK

Correspondence to: Dr Jenny Hill, Liverpool School of Tropical Medicine, Pembroke Place, Liverpool L37 3QA, UK; jenny.hill@lstm.ac.uk

Three hundred women were enrolled. The dihydroartemisinin–piperaquine arm, and slightly higher (RR 1.15 95% CI 0.65 to 2.02) in the three-course arm, compared with sulfadoxine–pyrimethamine. There were no differences in safety or adverse events by study arm.

Commentary

This exploratory trial showed that IPTp with dihydroartemisinin–piperaquine was superior to sulfadoxine–pyrimethamine in reducing malaria infections during pregnancy in an area of high sulfadoxine–pyrimethamine resistance, however the study was not powered to detect differences in adverse birth outcomes. The results are consistent with another trial in western Kenya, which showed that, relative to IPTp with sulfadoxine–pyrimethamine, three-to-four courses of dihydroartemisinin–piperaquine resulted in similarly high reductions in clinical malaria and malaria infection, and was also associated with up to a 75% lower risk of stillbirths and early infant mortality. Interestingly, the Uganda trial also showed that monthly dosing results in added benefits over three-course dihydroartemisinin–piperaquine or sulfadoxine–pyrimethamine regimens, consistent with a meta-analysis of monthly versus two-course sulfadoxine–pyrimethamine.

Implications for practice

The WHO’s Malaria Policy Advisory Committee reviewed the results from both Ugandan and Kenyan trials, and concluded that dihydroartemisinin–piperaquine is a promising regimen for IPTp, and recommended that larger trials be conducted, powered to look at efficacy on adverse pregnancy outcomes and to provide further reassurance on safety.

Furthermore, questions remain regarding pregnant women’s adherence to dihydroartemisinin–piperaquine, a 3-day regimen, in non-controlled settings. Similarly, feasibility studies on the ability of antenatal care service providers to deliver the intervention in routine healthcare settings are also needed, given that coverage with the existing single-dose policy with sulfadoxine–pyrimethamine is already suboptimal. It is estimated these studies may take 3–4 years. If these promising findings are confirmed, it is likely to result in policy change in countries experiencing high levels of parasite resistance, including most countries in East and Southern Africa, benefiting women at risk of malaria in these regions, and resulting in healthier pregnancies and healthier newborns.

Contributors

JH wrote the first draft and FtK revised the draft for important intellectual content.

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