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Use of mefloquine during breastfeeding

There is little data on the use of mefloquine during breastfeeding, and this has led to a lack of clarity in advice on malaria chemoprophylaxis for breastfeeding women.

The studies are outlined below, together with a summary of advice from authoritative sources.

Research

There is one study of administration of mefloquine in breastfeeding women. Mefloquine is excreted in breast milk, and this study estimated that based on a maternal mefloquine dose of 3.73mg/kg and assuming a daily milk ingestion of 1 litre, the maximum amount of drug ingested by the infant would be 0.14mg/kg per week [1]. This was based on two women who took a single dose of mefloquine; conclusions cannot be drawn from such a limited study.

Summary of Product Characteristics (SPC) Lariam® (mefloquine) UK

The SPC advises against the use of Lariam during breastfeeding and states: *'As mefloquine is excreted into the breast milk, nursing mothers should not breast-feed while taking Lariam.'* [2]

Summary of Product Characteristics (SPC) Lariam® (mefloquine) USA

The SPC for Lariam in the USA states: *'mefloquine is excreted in human milk in small amounts. Based on a study in a few subjects, low concentrations (3% to 4%) of mefloquine were excreted in human milk following a dose equivalent to 250mg of the free base. Because of the potential for serious adverse reactions in nursing infants from mefloquine, a decision should be made whether to discontinue the drug, taking into account the importance of the drug to the mother.'* [3]

Advisory Committee for Malaria Prevention for UK Travellers (ACMP)

The ACMP state that *'experience suggests that mefloquine is safe to take during lactation.'* [4]

World Health Organization (WHO)

The WHO states that mefloquine is safe during breastfeeding [5].

Centers for Disease Control and Prevention (CDC)

CDC state that *'Because chloroquine and mefloquine may be safely prescribed to infants, it is also safe for infants to be exposed to the small amounts excreted in breast milk.'* [6]

Conclusion

UK guidelines consider doxycycline as unsuitable for use whilst breastfeeding, and there remains a lack of data regarding the use of atovaquone/proguanil (Malarone®). Chloroquine plus proguanil are considered safe whilst breastfeeding, but parasite resistance to this regimen is widespread, and it will not provide sufficient protection for many areas of the world. The ACMP does not recommend the use of chloroquine for travellers to sub-Saharan Africa [4].

Although mefloquine has been demonstrated to be excreted in breast milk in small amounts, there is insufficient data to draw conclusions regarding potential harmful effects on the infant. Mefloquine can be considered for breastfeeding mothers travelling to areas of chloroquine resistant *P. falciparum* malaria. Each traveller should be assessed on an individual basis regarding the potential risks and benefits of taking mefloquine whilst breastfeeding, taking into consideration the risk of malaria at the destination.

The breastfeeding infant also needs to take their own prophylaxis. However, if both mother and infant are taking mefloquine there is a concern regarding the amount of mefloquine an infant may receive, particularly those in the lower weight range. For this reason it is recommended that specialist advice be sought prior to prescribing mefloquine to infants weighing between 5 and 7kg if the mother is also using mefloquine.

All travellers should be advised of the importance of [insect bite precautions](#) and that they need to obtain urgent medical assistance if they develop signs and symptoms of malaria.

Expert advice should be sought for breastfeeding women who have other medical contraindications to the use of mefloquine, and those travelling to mefloquine resistant areas.

References:

1. Edstein MD, Veenendaal JR, Hyslop R. Excretion of mefloquine in breast milk. *Chemotherapy* 1988;34(3):165-9
2. Roche Products Ltd. Lariam summary of product characteristics. Revised 22 June 2009. [Accessed 3 July 2009]. Available at <http://emc.medicines.org.uk/medicine/1701/SPC/Lariam/>
3. Roche. Lariam prescribing information. Revised September 2008. [Accessed 3 July 2009]. Available at http://www.accessdata.fda.gov/drugsatfda_docs/label/2008/019591s024s025lbl.pdf
4. Chiodini P, Hill D, Laloo D et al. Guidelines for malaria prevention in travellers from the United Kingdom. London, Health Protection Agency, January 2007. Available at http://www.hpa.org.uk/webw/HPAweb&HPAwebStandard/HPAweb_C/1195733823080?p=1191942128258
5. World Health Organization. International travel and health 2009. Geneva, 2009. Available at <http://www.who.int/ith>
6. Centers for Disease Control and Prevention. Health information for international travel 2010. Atlanta, 2009.