

## **FDA Drug Safety Communication: FDA approves label changes for antimalarial drug mefloquine hydrochloride due to risk of serious psychiatric and nerve side effects**

**[7-29-2013]** The U.S. Food and Drug Administration (FDA) is advising the public about strengthened and updated warnings regarding neurologic and psychiatric side effects associated with the antimalarial drug mefloquine hydrochloride. A boxed warning, the most serious kind of warning about these potential problems, has been added to the drug label. FDA has revised the patient Medication Guide dispensed with each prescription and wallet card to include this information and the possibility that the neurologic side effects may persist or become permanent. The neurologic side effects can include dizziness, loss of balance, or ringing in the ears. The psychiatric side effects can include feeling anxious, mistrustful, depressed, or having hallucinations (For a more complete list of potential side effects, see Additional Information for Patients).

Neurologic side effects can occur at any time during drug use, and can last for months to years after the drug is stopped or can be permanent. Patients, caregivers, and health care professionals should watch for these side effects. When using the drug to prevent malaria, if a patient develops neurologic or psychiatric symptoms, mefloquine should be stopped, and an alternate medicine should be used. If a patient develops neurologic or psychiatric symptoms while on mefloquine, the patient should contact the prescribing health care professional. The patient should not stop taking mefloquine before discussing symptoms with the health care professional.

[Malaria](#) is a serious disease caused by a parasite that commonly infects mosquitoes, which then bite humans. It is a major cause of death worldwide but is less common in the United States. The disease is a problem primarily in developing countries with warm climates. Persons who travel to these countries may be at risk of malaria infection and should take drugs to prevent or reduce that risk. People with malaria often experience fever, chills, and flu-like symptoms. Drugs must be taken to treat the disease if you have been infected, but may, themselves, have side effects.

FDA will continue to evaluate the safety of mefloquine and will communicate with the public again if additional information becomes available.

### **FACTS about mefloquine tablets**

- Antimalarial drug indicated for the treatment of mild to moderate acute malaria caused by mefloquine-susceptible *P. falciparum* and *P. vivax*.
- Also indicated for the prevention of malaria infections by *P. falciparum* (including chloroquine-resistant *P. falciparum*) and *P. vivax*.

- Previously marketed under the brand name Lariam; however, the Lariam product is not currently marketed. Generic mefloquine products are available in the US.

### **Additional Information for Patients**

- Mefloquine may cause dizziness, balance problems, and ringing in the ears. These symptoms can occur at any time during use and can last for months to years after the drug is stopped or can be permanent.
- Contact your health care professional right away if you take mefloquine and experience any of the following signs and symptoms; it may be necessary to stop mefloquine and take another medication to prevent malaria, but do not do so without first talking with your health care professional:
  - Dizziness
  - Balance problems such as a feeling that you or things around you are moving or spinning (vertigo)
  - Ringing in your ears (tinnitus)
  - Convulsions or seizures
  - Inability to sleep (insomnia)
- If you already have or develop any mental problems, you should contact your health care professional right away. These mental problems include:
  - Anxiety
  - Feelings of mistrust towards others (paranoia)
  - Seeing or hearing things that are not there (hallucinations)
  - Depression
  - Restlessness
  - Confusion
  - Behavior that is unusual
- Carefully read the Medication Guide and the wallet card that come with your mefloquine prescription.
- Discuss any questions or concerns about mefloquine with your health care professional.

- Report any side effects you experience to your health care professional and the FDA MedWatch program, using the information in the Contact FDA box at the bottom of the page.

### **Additional Information for Health Care Professionals**

- Encourage your patients to contact you if they develop neurologic or psychiatric symptoms.
- Make sure your patients receive the Medication Guide with every prescription.
- Be alert to the potential for the development of neurologic and psychiatric adverse reactions in patients using the drug. If the patient develops psychiatric or neurologic symptoms during preventive use, mefloquine should be stopped and an alternate antimalarial medicine should be used.
- Neurologic and psychiatric symptoms can be difficult to identify in children.
- Report adverse reactions involving mefloquine to the FDA MedWatch program, using the information in the Contact FDA box at the bottom of the page.

### **Data Summary**

The mefloquine drug label already states that mefloquine should not be prescribed to prevent malaria in patients with major psychiatric disorders or with a history of seizures. The changes to the mefloquine drug label better describe the possibility of persistent neurologic (vestibular) adverse effects after mefloquine is discontinued and the possibility of permanent vestibular damage.

In conducting its assessment of vestibular adverse reactions associated with mefloquine use, FDA reviewed adverse event reports from the FDA Adverse Event Reporting System (FAERS) and the published literature, identifying patients that reported one or more vestibular symptoms such as dizziness, loss of balance, tinnitus, and vertigo. Patients who reported vestibular adverse reactions were healthy with no known major medical problems prior to taking mefloquine for malaria prophylaxis. Some patients did not suspect their symptoms were due to mefloquine and continued to take the drug after the symptoms started.

In many cases, these symptoms developed early in the course of treatment, sometimes after one or two doses of mefloquine. Dizziness, loss of balance, tinnitus, or vertigo persisted for months to years after mefloquine was discontinued, and permanent vestibular damage was diagnosed in some cases. These symptoms interfered with patients' daily activities and ability to work. Some cases described abnormal vestibular function tests and a diagnosis of vestibular damage. In some cases, the vestibular damage was thought to be caused by mefloquine use. Some patients reported recurrence of psychiatric and vestibular symptoms when they took mefloquine for the second time. Patients who experienced vestibular symptoms usually had concomitant psychiatric symptoms such as anxiety, confusion, paranoia, and depression. Some of the psychiatric symptoms persisted for months to years after mefloquine was discontinued.

FDA will continue to evaluate the safety of mefloquine and will communicate again if additional information becomes available.