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POST DISASTER INTERIM ADVICE ON THE PREVENTION OF LEPTOSPIROSIS IN CHILDREN

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The purpose of this advice is to provide guidelines for physicians and parents on the prevention of leptospirosis in the pediatric age group.

Leptospirosis is an infectious disease caused by pathogenic bacteria called leptospires. The main carriers of leptospires are animals such as rats, mice, dogs, cats and livestock. Human leptospiral infections can occur when mucus membranes and skin are contaminated by the urine of infected animals, or upon ingestion of contaminated food and water, all of which may occur when an individual is exposed to flood waters. Thus the occurrence of freshwater flooding after typhoons or increased rainfall can lead to an increased risk of leptospirosis.

Initial symptoms of leptospirosis may range from mild to severe, or may even be fatal. Manifestations of the disease include: (1) a mild influenza-like illness; (2) Weil's syndrome, characterized by jaundice, renal failure, hemorrhage, and arrhythmias; (3) meningitis/meningoencephalitis; or (4) pulmonary hemorrhage with respiratory failure. Case fatality rates range from 12-14% in the Philippines. In studies in India, case fatality rates were lower in the pediatric age group compared to adults.

Prevention of leptospirosis includes the following:

1. Parents should instruct children not to wade or swim in flood waters.
2. If exposure to flood waters is unavoidable, protective gear such as boots, goggles, overalls, and rubber gloves should be used.
3. All food and drinking water should be protected against contamination. Fresh vegetables and fruit should be washed in previously boiled or clean water and then cooked or peeled.
4. Boil drinking water for at least 10-15 minutes. Physical filtration through ceramic or charcoal filters is not adequate for leptospirosis.
5. Food should be protected against rodent attack or contamination.
6. If children are exposed to flood waters, antibiotic prophylaxis may decrease occurrence of clinical disease and mortality. Prophylactic antibiotics should be given under the supervision of a physician, who can give advice regarding effects, precautions and contraindications for these medications.

The following antibiotics are recommended for children exposed to flood waters:
DRUG OF CHOICE

	Dose (oral)	Comments
Doxycycline	4 mg/kg single dose, max dose: 200mg	Proven efficacy for preventing clinical disease Adverse effects are similar to other tetracyclines; in children below 8 years of age, doxycycline is unlikely to cause dental staining at the dose and duration recommended to treat serious infections Avoid milk, dairy products, iron and antacids 1 hour before and 2 hours after administration; may be given with food to avoid stomach upset

ALTERNATIVE DRUGS

	Dose (oral)	Comments
Azithromycin	10 mg/kg single dose, max dose: 500 mg	Efficacy for prevention of leptospirosis was seen in in vitro and animal models
Amoxycillin	50 mg/kg/day q 6 hrs. for 3-5days Max dose: 500 mg q 6 hrs	No clinical trial for prevention of leptospirosis, but amoxycillin is a known alternative for the treatment of disease Dose is for 3-5 days due to the very short half-life

If children are exposed for more than 7 days, the dose should be repeated after 1 week.

Prophylaxis is not 100% effective. Prevention of exposure is most prudent. Monitor all those exposed for the occurrence of symptoms of leptospirosis. The early signs of infection occur between 4 and 10 days after exposure, and usually begin with a fever and an influenza-like illness. Headaches, sensitivity to light, muscle and joint pains, vomiting and fatigue are also common. Seek medical attention once these symptoms are noted.

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