

ID CONSULT

Time to Expand Definition of a Travel Vaccine

Recent outbreaks of measles in western Europe and of pertussis here in the United States suggest that we consider expanding our definition of a “travel vaccine.”

We typically think of travel vaccines as those that aren't routinely given to children (or adults) but that are given only to our patients who travel to developing countries that lack our standards of medical care. But now that there are large measles outbreaks in places like France and Belgium and pertussis in California and elsewhere in the United States, I think we need to start routinely asking patients about travel plans and ensure that they are fully immunized with the measles-mumps-rubella (MMR) and diphtheria-tetanus-acellular pertussis (DTaP) or tetanus-diphtheria-acellular pertussis (Tdap) vaccines if they aren't already.

This includes accelerating MMR immunization for children younger than 1 year who will be traveling. It appears that not all health care providers are aware of this particular recommendation

from the American Academy of Pediatrics' Red Book: While MMR is recommended for routine use in children at age 12 through 15 months with a booster at age 4-6 years, those aged 6 through 11 months who are traveling anywhere outside the United States are advised to receive one dose of MMR vaccine prior to their trip (Red Book;2009:444-55). For these 6- through 11-month-old children, this travel dose is not “valid,” meaning it doesn't officially count toward requirements for school attendance, but it is still in their best interests.

The Advisory Committee of Immunization Practices (ACIP) recommends: “Because serologic response to the measles component of the vaccine varies among infants aged 6–11 months, infants vaccinated before age 12 months should be revaccinated on or after the first birthday with 1 dose of MMR vaccine followed by a second dose at least 28 days later” (MMWR 1998;47[RR-8]:1-57).

This recommendation applies to ANY travel outside the United States except

Canada or Australia, not just developing countries. According to the World Health Organization, as of April 18 more than 6,500 measles cases were reported from 33 countries in Europe. France has now passed 5,000 cases of measles and looks to be heading for a record year. It appears that nearly all of the cases in France have been among children with no vaccine doses. They have had at least two deaths – one from encephalitis and one from pneumonia.

There are two other major pockets.

One near Belgium that seems to be associated with a religious group of vaccine refusers, while we're not sure what's behind another outbreak near the Spanish border. Other countries that have seen upticks in measles cases include Germany, the former Yugoslav Republic of Macedonia, the Netherlands, Norway, Romania, the Russian Federation, Switzerland, and the United Kingdom.

Measles cases have also been reported in the United States, including 29 during January-February 2011. Of those, 28 were import-associated (either imported or linked to an imported cases), of which 16 were actually imported. Of 13 imported cases among U.S. residents, 7 were children aged 6-23 months, all of whom had traveled internationally. Four of those children were hospitalized for measles-related complications: two with diarrhea and dehydration, one with persistent fever, and one with pneumonia. All four recovered (MMWR 2011;60:397-400).

The diagnosis had been delayed in three of the seven, presumably because measles had not been considered in the differential diagnosis of rash illness, even with a history of international travel. There's an obvious clinical lesson here.

None of those 7 had received MMR vaccine, and only 3 of 47 children aged 6-23 months with imported measles during 2001-2010 had received MMR vaccine. The reasons for nonvaccination of children often are unknown, but contributing to these might be a lack of perceived risk for severe measles. The frequency of imported measles among children aged 6-23 months also suggests that parents and clinicians might not be aware of recommendations to administer MMR vaccine to children as young as age 6 months when they are living or traveling abroad. Likewise, some aren't aware that they should give a second dose to any who have only one MMR dose more than 28 days prior. This “travel dose” can be given to a 13-month-old who had their first dose at 12 months of age. In fact, the parents of one of these 2011 measles patients had asked their pediatrician about vaccination for their

child before traveling and were advised that it was unnecessary.

Travelers to the WHO European Region should be aware that measles is endemic in several countries of that region, which was the source of 39% of U.S. measles imports during 2005-2008, according to the Centers for Disease Control and Prevention.

Pertussis is the other vaccine-preventable disease that has been popping up lately and for which we need to consider vaccinating patients who may be traveling to affected areas, even within the United States. As of April 13, the California Department of Public Health reported ongoing pertussis activity, with 733

cases in 2011 for a rate of 6.5/100,000 population. There were 9,273 cases with onset in 2010, or 2.37/100,000, the highest incidence reported in the state since 1958.

Of the 755 hospitalized cases in 2010, more than half (55%) were infants younger than 3 months of age and nearly three-quarters (72%) were infants less than 6 months of age. Of the 10 deaths, 9 were infants.

So far in 2011, the highest rates of pertussis in California have been in the counties of Amador (86/100,000), Sonoma (32.5), and Santa Clara (23.5). Have a patient traveling to California who hasn't received a DTaP within 10 years and never received a Tdap booster? There is no longer a duration limit since the last Td dose. Just go ahead and give the Tdap.

And while we're on the subject, I wanted to mention that I chaired a committee for the Pediatric Infectious Diseases Society that has just published a position statement regarding personal belief exemption from immunization mandates. This document is aimed at helping pediatricians and family physicians who live in states that have laws allowing such exemptions, by providing a resource to support you medicolegally when facing parents who attempt to use misguided laws to avoid immunizing their children. It is available at www.pids.org/news/238-pid-position-statement-on-pbes.html.

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Pataday™ (olopatadine hydrochloride ophthalmic solution) 0.2%

INDICATIONS AND USAGE

PATADAY™ solution is indicated for the treatment of ocular itching associated with allergic conjunctivitis.

CONTRAINDICATIONS

Hypersensitivity to any components of this product.

WARNINGS

For topical ocular use only. Not for injection or oral use.

PRECAUTIONS

Information for Patients

As with any eye drop, to prevent contaminating the dropper tip and solution, care should be taken not to touch the eyelids or surrounding areas with the dropper tip of the bottle. Keep bottle tightly closed when not in use. Patients should be advised not to wear a contact lens if their eye is red.

PATADAY™ (olopatadine hydrochloride ophthalmic solution) 0.2% should not be used to treat contact lens related irritation. The preservative in PATADAY™ solution, benzalkonium chloride, may be absorbed by soft contact lenses. Patients who wear soft contact lenses and whose eyes are not red, should be instructed to wait at least ten minutes after instilling PATADAY™ (olopatadine hydrochloride ophthalmic solution) 0.2% before they insert their contact lenses.

Carcinogenesis, Mutagenesis, Impairment of Fertility

Olopatadine administered orally was not carcinogenic in mice and rats in doses up to 500 mg/kg/day and 200 mg/kg/day, respectively. Based on a 40 µL drop size and a 50 kg person, these doses were approximately 150,000 and 50,000 times higher than the maximum recommended ocular human dose (MROHD). No mutagenic potential was observed when olopatadine was tested in an *in vitro* bacterial reverse mutation (Ames) test, an *in vitro* mammalian chromosome aberration assay or an *in vivo* mouse micronucleus test. Olopatadine administered to male and female rats at oral doses of approximately 100,000 times MROHD level resulted in a slight decrease in the fertility index and reduced implantation rate; no effects on reproductive function were observed at doses of approximately 15,000 times the MROHD level.

Pregnancy:

Teratogenic effects: Pregnancy Category C

Olopatadine was found not to be teratogenic in rats and rabbits. However, rats treated at 600 mg/kg/day, or 150,000 times the MROHD and rabbits treated at 400 mg/kg/day, or approximately 100,000 times the MROHD, during organogenesis showed a decrease in live fetuses. In addition, rats treated with 600 mg/kg/day of olopatadine during organogenesis showed a decrease in fetal weight. Further, rats treated with 600 mg/kg/day of olopatadine during late gestation through the lactation period

References:

1. Wolters Kluwer Pharma Solutions, Source® Pharmaceutical Audit Suite, August 2010-September 2010, among all specialties.
2. Abelson MB, Gomes PJ, Pasquine T, Edwards MR, Gross RD, Robertson SM. Efficacy of olopatadine ophthalmic solution 0.2% in reducing signs and symptoms of allergic conjunctivitis. *Allergy Asthma Proc.* 2007;28:427-433.
3. Granet DB, Amin D, Tort MJ. Evaluation of olopatadine 0.2% for the elimination of ocular itching in the conjunctival allergen challenge (CAC) model. Poster presented at: Western Society of Allergy, Asthma and Immunology; January 24-28, 2010; Maui, HI.
4. www.FingertipFormulary.com. Accessed June 17, 2010.

showed a decrease in neonatal survival and body weight. There are, however, no adequate and well-controlled studies in pregnant women. Because animal studies are not always predictive of human responses, this drug should be used in pregnant women only if the potential benefit to the mother justifies the potential risk to the embryo or fetus.

Nursing Mothers:

Olopatadine has been identified in the milk of nursing rats following oral administration. It is not known whether topical ocular administration could result in sufficient systemic absorption to produce detectable quantities in the human breast milk. Nevertheless, caution should be exercised when PATADAY™ (olopatadine hydrochloride ophthalmic solution) 0.2% is administered to a nursing mother.

Pediatric Use:

Safety and effectiveness in pediatric patients below the age of 3 years have not been established.

Geriatric Use:

No overall differences in safety and effectiveness have been observed between elderly and younger patients.

ADVERSE REACTIONS

Symptoms similar to cold syndrome and pharyngitis were reported at an incidence of approximately 10%.

The following adverse experiences have been reported in 5% or less of patients:

Ocular: blurred vision, burning or stinging, conjunctivitis, dry eye, foreign body sensation, hyperemia, hypersensitivity, keratitis, lid edema, pain and ocular pruritus.

Non-ocular: asthenia, back pain, flu syndrome, headache, increased cough, infection, nausea, rhinitis, sinusitis and taste perversion.

Some of these events were similar to the underlying disease being studied.

DOSAGE AND ADMINISTRATION

The recommended dose is one drop in each affected eye once a day.

HOW SUPPLIED

PATADAY™ (olopatadine hydrochloride ophthalmic solution) 0.2% is supplied in a white, oval, low density polyethylene DROP-TAINER® dispenser with a natural low density polyethylene dispensing plug and a white polypropylene cap. Tamper evidence is provided with a shrink band around the closure and neck area of the package.

NDC 0065-0272-25

2.5 mL fill in 4 mL oval bottle

Storage:

Store at 2°C to 25°C (36°F to 77°F)

U.S. Patents Nos. 5,116,863; 5,641,805; 6,995,186; 7,402,609

Rx Only

Alcon®