

ID Snapshot

What's the Dx? Fever, cough, rash in international traveler

by **H. Cody Meissner, M.D., FAAP**

A 6-year-old boy traveled to France with his parents for a five-day vacation. Ten days after his return to the United States, he developed fever and cough. Three days later, he developed an exanthem similar to the rash shown in the photograph. His parents had declined the measles-mumps-rubella vaccine because of religious beliefs.

The most likely cause of this child's illness is:

- a. rubella
- b. fifth disease
- c. mumps
- d. measles
- e. drug reaction

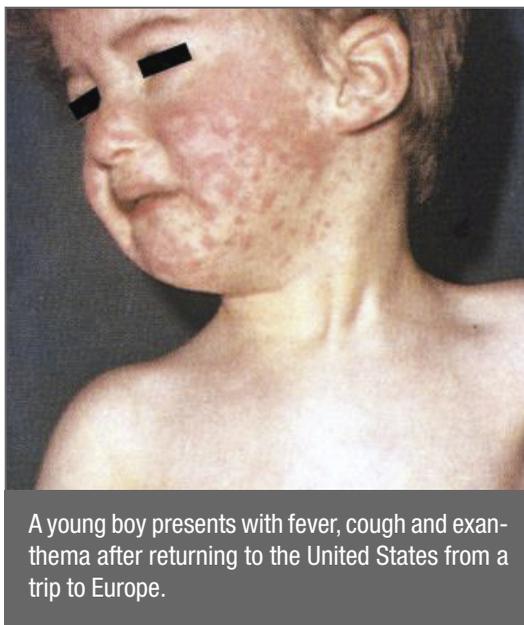
Answer: (d) measles virus

A test for measles immunoglobulin M antibody performed at the state health department was positive. A viral culture of a urine specimen grew measles virus. Molecular sequencing demonstrated the viral isolate was genotype D4, the predominant genotype associated with recent measles outbreaks in Europe.

Failure to vaccinate with a measles-containing vaccine has resulted in a sharp increase in measles in many European countries. During 2011, approximately 14,000 cases of measles were reported in France alone and included cases of measles encephalitis and measles-associated deaths. Measles can cause serious complications, particularly among children younger than 5 years of age.

The unusually high number of recent measles importations into the United States (217 reported cases in 2011) is related to increases in measles in countries visited by U.S. travelers. Travel to any country outside the United States, including Western Europe and Canada, presents a risk for measles exposure.

Measles vaccine recommendations for travelers include vaccination for infants 6 through 11 months of age followed by a normal two-dose schedule starting at 12 months of age. Two doses of a measles-containing vaccine at least 28 days apart is recommended for travelers who are 12 months or older.



A young boy presents with fever, cough and exanthema after returning to the United States from a trip to Europe.

U.S. residents who refuse vaccination because of religious beliefs can import measles into their communities while still incubating the infection with the development of secondary cases. Measles is infectious for four days before through four days after onset of the rash. Measles virus can remain suspended in air for up to two hours. A room that has been occupied by a suspected case of measles should not be used for two hours after the patient leaves the room. Measles vaccine administered to a susceptible person within 72 hours of exposure may prevent infection. Immune globulin administered within six days of exposure may prevent or modify disease.

Health care providers are urged to maintain a high index of suspicion for measles among patients presenting with fever and rash, especially following recent travel outside the United States.

Rubella often is mild, and a prodrome of fever and cough is not typical. Most parvovirus infections are asymptomatic but when symptomatic, the most common manifestation is a rash that appears as "slapped cheeks." Mumps may have a prodrome, but parotitis is the most common manifestation of disease. The absence of medication administration in the child is not consistent with a drug reaction.



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