Correspondence

Reply to Castillo-Solorzano et al

To the Editor—The article by Castillo-Solorzano et al [1] in a recent supplement to The Journal of Infectious Diseases documents the tremendous efforts and substantial resources involved in the successful elimination of measles from countries in the World Health Organization (WHO) Region of the Americas. In 2011, countries in the region experienced unusually high numbers of imported measles cases as a result of ongoing measles outbreaks in several countries throughout Europe [2]. In response, the WHO posted recommendations for travelers to be vaccinated against measles and rubella [3]. Here, we present 2 cases of measles importation to Brazil in 2011 that illustrate the need for health authorities and travel-health professionals to advocate for immunization and demonstrate the importance of complete vaccination of international travelers without evidence of existing immunity. Collection of data during measles case investigations is considered by Brazil’s national ethical review committee to be part of public health response, and patient consent is not required. Patient confidentiality has been protected according to Brazilian law.

The first imported measles case detected in Brazil in 2011 occurred in a 41-year-old male physician of Brazilian nationality following international travel to the United States for a family holiday. He experienced onset of fever 4 days after returning to Brazil but sought medical attention several days later for persistent fever, appearance of maculopapular rash, coryza, enlarged lymph nodes, and conjunctival hyperemia. He was admitted to the hospital with initial suspicion of dengue fever and was discharged the following day. He had no history of measles vaccination. Measles infection was confirmed by polymerase chain reaction (PCR) analysis of urine specimens; the genotype identified was D4, the most frequently detected measles genotype in Europe [4]. The case patient reported no contact with measles patients during travel. Follow-up of household contacts of the case patient, passengers on international flights to and from the United States, and individuals examined by the case patient during the prodromal phase of illness identified no associated measles cases.

The second imported case in Brazil occurred in a 28-year-old female physician of French nationality on holiday in Brazil who became ill and was admitted to hospital with fever, rash, retro-orbital pain, arthralgia, and diarrhea. The patient reported onset of headache during her international flight but did not seek medical attention for 8 days while traveling in Brazil. Measles virus genotype D4 was detected by PCR of nasopharyngeal swab specimens. No association between the first and second imported cases was established. She reported having received 1 dose of measles vaccine at 2 years of age; no vaccination document was available for confirmation. She examined 2 children with measles in France 2 weeks prior to her departure. She traveled by interstate bus in Brazil during her infectious period, and a 9-year-old girl who was exposed during a coincidental layover at a bus station subsequently developed measles. The young girl had received 1 dose of measles vaccine at 9 months of age. The identity of the measles virus identified from the 2 case patients was confirmed by nucleotide sequencing. Follow-up of known contacts of the 9-year-old case patient identified further measles virus transmission to 1 child aged 2 years with no history of measles vaccination.

Travelers need to be alert for signs and symptoms of measles and should promptly seek medical attention if they are present. Waiting to seek care delays the implementation of control measures. Vaccinated persons might believe that they are immune to measles and, therefore, might not suspect measles illness when symptoms appear. The 28-year-old French physician may have falsely assumed that she was immune to measles following vaccination during childhood and might not have suspected measles despite having had close contact with measles patients 10 days prior to her international travel. For this reason, the Pan American Health Organization (PAHO) and WHO recommend vaccination against measles and rubella (preferably with measles-rubella–containing vaccines) at least 2 weeks before departure for travelers >6 months of age who do not have documented evidence of having received measles or rubella vaccines or serologic evidence of measles- and rubella-specific immunity [1, 5].

In the event of measles importation, public health and surveillance systems in the country where the case is identified bear a substantial economic burden for case investigation, contact tracing, and containment [6, 7]. The costs of investigation and containment efforts incurred following importation could be mitigated by improved vaccination coverage among international travelers, leading to fewer importations.
Healthcare workers are at high risk of contracting measles [8]. Healthcare workers should be fully vaccinated against measles and rubella to prevent illness and potential transmission to susceptible patients. PAHO encourages the practice of requiring proof of measles and rubella immunity as a prerequisite to employment in the healthcare sector [5]. PAHO also recommends that personnel in the tourism and transportation sectors have documented measles and rubella vaccination [5].

We believe that implementation of these measures will help prevent measles in travelers and, thus, reduce the risk of reintroduction of measles and rubella in the Americas.

Note

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