Measles Outbreak Linked to Youth Sporting Event, Reports Pediatric Infectious Disease Journal

Keep Vaccines Up-to-Date to Avoid Risks from 'Imported' Measles

Philadelphia, Pa. (September 7, 2010) - An outbreak of measles at an international youth sporting event illustrates the risks of with "imported" measles, according to a study in the September issue of The Pediatric Infectious Disease Journal. The journal is published by Lippincott Williams & Wilkins, a part of Wolters Kluwer Health, a leading provider of information and business intelligence for students, professionals, and institutions in medicine, nursing, allied health, and pharmacy.

Measles "imported" from countries with lower vaccination rates can readily cause outbreaks in the United States, the researchers write, including measles in vaccinated adults and cases transmitted during air travel. The study was led by Dr. Tai-Ho Chen of the Centers for Disease Control and Prevention (CDC).

Measles in Young Player Leads to Public Health Investigation
The 2007 outbreak began when a Japanese child attending an international youth sporting event in Pennsylvania developed a fever with the typical measles rash. The child was immediately placed in isolation; a few days later, tests confirmed the diagnosis of measles.

Public health officials responded promptly, launching an investigation that included nearly 500 players, coaches, staff, and others attending the sporting event. About 40 percent of these contacts did not have evidence of "presumptive measles immunity"—they had not either had measles or been vaccinated against it. All were either vaccinated or tested to see if they had immunity.

Vaccination records had been requested for all children attending the event—however, for most participants, this information was missing. Even when requested again, vaccine information was still not provided for most of the children from international teams.

The investigation was broadened to identify others who might have been exposed to the sick child during or after his trip. Measles also developed in another Japanese child who had traveled with the team. All members of the Japanese team, and another team traveling on the same airplane from Tokyo, were vaccinated. Staff and other guests at the hotel where the child had been staying were advised of their possible exposure; none were apparently infected.

Additional Cases Linked to Exposure during Air Travel
Further tracing efforts identified two people who developed measles after being exposed to the child during air travel. One was a federal airport officer who was probably exposed to the child as he passed through customs. The other was in another passenger who had been seated one row in front of the child on a subsequent flight.

Another case occurred in a man who had worked at the youth sporting event, and subsequently made a number of college visits in Texas. Two students at one of the colleges, who came into contact with the man during his visit, also developed measles. The two students had received routine measles vaccination in childhood; both developed only
mild cases of measles.

Further tests were performed to confirm whether these additional patients were all infected with the same measles virus as the original Japanese patient. Of six patients tested, all proved to have the same measles virus genotype.

Through high vaccination rates, measles has been virtually eliminated in the United States. However, there is still a risk of exposure to measles by travelers from other countries—even developed countries such as Japan, where the measles vaccination rate is low and periodic measles outbreaks still occur.

“The findings from this outbreak remind healthcare providers of the potential for measles importation,” Dr. Chen and colleagues write. They highlight the need to maintain high levels of measles immunity in the U.S. population—particularly ensuring that all children (and unvaccinated adults) receive two recommended doses of measles vaccine. The investigators conclude, “Improving global measles control through expanded vaccination coverage will reduce morbidity and mortality in other countries and also will reduce the burden of measles in the US.”

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