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Rubella Returns: A Subtle But Serious Rash Illness

On January 25, 1993, an alert school nurse notified the Section of Epidemiology of a possible case of rubella in a student currently attending an Anchorage-area high school.

CASE REPORT

A 14-year-old foreign student from Latvia (in the former Soviet Union), who enrolled in an Anchorage-area high school in the fall of 1992, returned to Latvia on December 19 for Christmas break. He returned to Alaska on January 5, 1993, and began attending classes again on January 6. On January 22, he felt ill and reported to the school nurse, who examined him and found enlarged cervical lymph nodes and low-grade fever. He developed a rash on January 23. A public health nurse who visited the boy at home on January 27 found that the rash, which had first appeared on the chest and extended to the face and extremities, had faded from the face but was still faintly visible on the chest, elbows, and knees. The rash was discrete, papular, and pruritic, and cervical lymphadenopathy was present. The student also reported pain in the joints of his fingers. A blood specimen drawn on January 27 was strongly positive for rubella-specific IgM antibody, confirming the diagnosis of rubella.

INVESTIGATION

The immunization records of all students attending the high school were examined. Of the 1,710 students, only six (0.4%) were not fully immunized and had either a medical or religious exemption. Of these six, only one had not been vaccinated against rubella. The unimmunized student, as well as all staff whose rubella immune status was unknown, were offered vaccination. All pregnant females at the school were identified and were found to have serologic evidence of rubella immunity. Intensive surveillance for any febrile rash illness has been established at the school. Secondary cases would be expected to occur sometime between February 1 and February 15. However, the school's high rate of immunization against rubella (99.9%) should help to prevent transmission within the student population.

DISCUSSION

Rubella is a mild illness which may easily be misdiagnosed or overlooked. A 1- to 5-day prodrome of low-grade fever, headache, malaise, mild coryza and conjunctivitis usually precedes the maculopapular rash, which may be the first or only manifestation of rubella. Post-auricular, occipital, and posterior cervical lymphadenopathy, which typically develops 5-10 days before rash onset, is characteristic. The incubation period is 16-18 days, with a range of 14 to 23 days. Transmission occurs by means of respiratory droplet spread or direct contact with case-patients. Individuals are infectious for about one week before and at least four days after the onset of rash. Congenital rubella syndrome occurs in $\geq 25\%$ of infants born to women who acquire rubella during the first trimester of pregnancy. Clinical diagnosis of rubella is often inaccurate; laboratory confirmation is crucial.

This is the first confirmed case of rubella in Alaska since 1991. This case emphasizes the importance of thorough evaluation of immunization records of every student attending school, especially students from foreign countries. Children over age 11 years are not required by law to be immunized against rubella; however, all school children should be immunized against rubella. Records of foreign students should be thoroughly evaluated. When the immunization status of a foreign student is in doubt, the student should be immunized. Schools should have the ability to identify quickly all unimmunized students so that they may be advised of any known exposure to vaccine-preventable diseases and offered vaccination.

RECOMMENDATIONS

1. Any suspected case of rubella should be immediately reported to the Section of Epidemiology by calling 561-4406. The patient should be isolated and a blood specimen drawn for serologic confirmation. The presence of rubella-specific IgM antibody is diagnostic, but it usually is not detectable until the third or fourth day of rash. Specimens are tested free of charge by the State Public Health Laboratories in Fairbanks and Anchorage.
2. Pregnant women not immune to rubella are a special risk group because of the possibility of congenital rubella syndrome affecting their fetuses. Any pregnant woman who is a contact of a suspected or confirmed case of rubella should be tested for immunity to rubella (presence of rubella-specific IgG antibody). If she is not immune, there should be further consultation to determine the risk (if any) to the fetus.
3. Immunization records of foreign students should be carefully evaluated. If the student's immunization status is in doubt, he/she should be immunized. MMR is the vaccine of choice for rubella immunization.

(Thanks to the school nurse for reporting this case and the Municipality of Anchorage, Disease Prevention and Control Section, for investigating this case. Contributed by Sue Anne Jenkerson, RNC, MSN, FNC and Michael Jones, MD, Section of Epidemiology).