



Rubella outbreaks on cruise ships

Rubella, a mild illness reported in about 2000 people annually in Canada,¹ is often asymptomatic. However, infection during the first trimester of pregnancy can result in severe birth defects, including deafness, cataracts, heart defects and mental retardation. Serologic surveys in the US indicate that about 10% of women of childbearing age may be susceptible to rubella,² and about 85% of susceptible pregnant women infected during the first trimester may give birth to an infant with congenital rubella syndrome.² It is therefore important to maintain aggressive vaccination policies so that women of childbearing age are protected.

The US Centers for Disease Control and Prevention (CDC) recently reported outbreaks of rubella on cruise ships.² On a ship sailing between Florida and the Bahamas last summer, CDC investigators found rubella infection in 16 crew members (4%), 8 of whom had no symptoms. An additional 25 crew members (7%) had no rubella antibodies and were susceptible to infection. On another ship cruising a similar route, 7 crew members experienced a rash illness; in 5 of these cases rubella was confirmed serologically by immunoglobulin IgM antibody testing. In both instances, it was noted that about 90% of the crew members were not US born and that together they represented 50 different countries. About 75% had no known vaccination with rubella or had negative results in testing for rubella antibodies.

As part of its investigation, the CDC surveyed more

than 3500 cruise ship passengers. About a third were women of childbearing age, and almost 1% of these were pregnant (half in the first trimester).² On the basis of this information the CDC estimated that one case of congenital rubella syndrome could have occurred each week among passengers sailing during the outbreaks.

Because of the confined environment of cruise ships and the high concentration of people during cruises, infectious diseases such as rubella may be particularly threatening. In addition, because those working on such ships come from a wide variety of countries, routine comprehensive vaccination coverage cannot be assumed.

Women of childbearing age working or travelling on cruise ships may thus be at risk of being infected. It is important that physicians advise their patients of these concerns and that women of childbearing age in particular have their immunity to rubella verified. Women with no documentary proof of vaccination should have antibody levels determined. If such

tests indicate susceptibility, the patients should be vaccinated. Pregnancy is a contraindication to vaccination, so an inquiry about pregnancy status should be made beforehand. Women should be advised to avoid becoming pregnant in the 3 months after vaccination. — JH

References

1. National Advisory Committee on Immunization. Rubella vaccine. In: *Canadian immunization guide*. 4th ed. Ottawa: National Health and Welfare Canada and Canadian Medical Association; 1993. p. 109-13.
2. Rubella among crew members of commercial cruise ships — Florida, 1997. *MMWR* 1998;46(52-53):1247-50.

