

RUBELLA

INTRODUCTION

Rubella, also known as German measles, is an infection caused by a virus. Rubella is characterized by a low-grade fever and diffuse rash, although up to half of infections occur without rash. While rubella infections are relatively benign, they can cause severe birth defects, known as congenital rubella syndrome (CRS), if contracted by a woman early in her pregnancy.

Some of the more common birth defects seen with CRS include: hearing loss, congenital heart defects, vision problems, cognitive problems, neurological problems, motor problems, and liver or spleen damage. The number and severity of CRS birth defects varies with each case. However, about 80% of children born to mothers who contracted rubella during the first trimester have CRS.

Prevalent worldwide, there are nearly 200,000 reported cases of rubella and about 200 reported cases of CRS each year, although these are probably grossly underestimated due to poor rubella and CRS surveillance.

Since humans are the only host for the rubella virus, aggressive vaccination campaigns hold great potential. In 2005, through the routine use of the rubella vaccine with children the US was able to declare that rubella cases had been eliminated from the country. Similarly, other countries that have introduced the vaccine into their national immunization programs have seen significant declines in indigenous rubella and CRS cases. While these successes can cause complacency, it is important for countries that have not introduced the vaccine yet to do so and for the countries that have introduced to continue immunizing children and vulnerable adults to prevent future outbreaks.

DISEASE OVERVIEW

Risks

- A rubella infection early in pregnancy can result in severe birth defects or miscarriage known as congenital rubella syndrome (CRS)

Symptoms

- Usually mild flu-like symptoms, including: low-grade fever, headache, runny nose, sore throat, red eyes, and muscle or joint pain
- Mild rash, usually persisting for less than 3 days

Transmission

- Rubella is transmitted person-to-person via the respiratory tract
- A person is infectious about 1 week before and about 1 week after the onset of symptoms

Treatment

- There is no specific course of treatment for a rubella infection
- A live, attenuated rubella vaccine is safe, effective and routinely administered along with the vaccines for mumps and measles to children and women of childbearing age

DISEASE BURDEN

Prevalence

- There were nearly 200,000 reported cases of rubella worldwide in 2007
- The WHO only lists 203 reported cases of CRS in 2007
- Rubella and CRS are significantly underreported because cases of rubella are often mild and not reported by the patient and rubella surveillance is underdeveloped

Disease Impact

- Aside from the financial impact of missing a few days of work, rubella itself generally has no lasting effects
- CRS can cause lifelong disability or premature death, putting a strain on family and health resources
- CRS can manifest in a number of different birth defects, including: hearing loss, congenital heart defects, vision problems, mental retardation, and spleen and liver damage

EFFORTS AT CONTROL

An aggressive rubella vaccination program helped the US eliminate indigenous rubella cases in 2005. The Pan American Health Organization's (PAHO) effort to eliminate rubella by 2010 is another example of an aggressive effort to end the devastating effects of the disease. In 2003 PAHO committed itself to introducing rubella-containing vaccines into the national immunization schedules of all member states, achieving at least 95% vaccine coverage and improving rubella surveillance by integrating it with measles surveillance. Other countries have also introduced the vaccine into their national immunization schedules and seen significant declines in CRS and rubella

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cases, especially among children. These recent successes, however, need to be sustained through continued vaccination in these countries and introduction of the rubella vaccine into other countries' national immunization schedules. Vaccination programs should target all children under age 5 and unvaccinated women of childbearing age.

FACTS AT A GLANCE

- Rubella is generally a mild infection, but can cause serious birth defects if contracted early in pregnancy
- Nearly 200,000 reported cases of rubella and 203 reported cases of CRS in 2007
- Rubella and CRS surveillance is inadequate and should be expanded and strengthened
- The rubella vaccine has helped the US eliminate indigenous rubella cases
- From 1998 to 2006 Rubella cases in the Americas decreased 98% to just under 3,000

SOURCES

WHO. http://www.who.int/immunization_monitoring/diseases/rubella/en/index.html

CDC. <http://wwwn.cdc.gov/travel/yellowBookCh4-Rubella.aspx> and <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5743a4.htm>