RUBELLA (GERMAN MEASLES)

I. DEFINITION:

Rubella is sometimes referred to as German Measles or three-day measles. It usually presents as a mild febrile illness with a maculopapular rash which starts on the face and spreads to the rest of the body. Children can present with few or no symptoms. The disease is more severe in infants and adults. Adults may present with a prodrome of a low-grade fever, headache, malaise, mild coryza, and conjunctivitis. Lymphadenopathy is the most common clinical feature preceding rash onset by 5-10 days. Up to 50% of rubella infections are subclinical. Rubella is important as infections occurring during pregnancy are associated with congenital malformations, spontaneous abortions and intrauterine deaths. It is airborne spread and through direct contact with nasal or throat secretions of infected persons.

II. ETIOLOGY:

The rubella virus is a togavirus, in the genus Rubiviris.

III. CLINICAL FEATURES:

A. Young children:
   1. Children usually have a rash that starts on their face and spreads to the rest of their body.
   2. Low grade fever < 101°F Fahrenheit.
   3. These symptoms last for 2 to 3 days,

B. Older children and adults:
   1. May have symptoms similar to a cold prior to the rash appearing.
   2. Swollen glands.
   3. Aching joints, especially in young women.
   4. About 50% of the people who get rubella are asymptomatic.

IV. LABORATORY STUDIES:

Contact the Acute Disease Service (ADS) Epidemiologist-On-Call (405-271-4060) prior to obtaining lab specimens. Ensure that anyone susceptible to measles or rubella is not accidentally exposed while the specimens are obtained. All persons who have not had the disease or who have not been successfully immunized are considered to be susceptible. Clinical diagnosis of rubella is unreliable, so cases must be confirmed through laboratory testing.

A. A diagnosis of rubella can be made by a variety of laboratory tests available both commercially and at OSDH contract reference laboratories:
   1. IgG and IgM antibody test
   2. Culture
   3. RT-PCR
B. IgG and IgM antibody tests:

1. Advise the client’s primary healthcare provider to order IgM and IgG rubella tests through local commercial laboratory.

2. IgM should be obtained >4 days after rash onset. The IgM antibody test is the preferred test when the patient meets the case definition because it provides the fastest confirmation.

3. The second IgG blood specimen should be obtained approximately 14 days after the initial specimen.

4. In situations where laboratory testing cannot be obtained by the client’s primary healthcare or an alternative clinic (in a timely fashion or due to costs) for persons suspected of having rubella who are at high risk of complications or of exposing others, the public health nurse should immediately notify the ADS Epidemiologist-on-Call and discuss laboratory testing of the client through the OSDH contract reference laboratory.

5. Testing a person suspected of having rubella should only be completed by approval after consultation with the ADS Epidemiologist-on-Call.

6. If testing is conducted using the OSDH contract reference laboratory, specimens will be collected per contract laboratory specifications. Instructions for specimen collection, documentation, and transportation to the contract reference laboratory will be provided by the ADS Epi-on-Call to the public health nurse prior to collection.

   a. In certain instances, other laboratory specimens may be requested for testing. Other laboratory specimens may include throat swab, nasopharyngeal swab, or urine.
   
   b. For exposure during pregnancy, determine immune status and refer healthcare provider to recommendations in Red Book for post-exposure immunization if susceptible.

C. Cultures:

1. Isolation of rubella virus from nasal, blood, throat, urine or cerebrospinal fluid (CSF).

2. Specimens should be obtained as soon as possible (within four days after rash onset).

3. Instructions for specimen collection, documentation, and transport to the contract reference laboratory will be provided by the ADS Epi-on-Call to the public health nurse prior to collection.

D. RT-PCR:

1. Detection of virus by RT-PCR is useful in detecting presence of and origin of circulating rubella virus in clinical samples.

2. Appropriate specimens include throat swabs and cerebrospinal fluid. The ADS Epidemiologist-on-Call will direct public health nurse on specimens that need to be collected.
V. MANAGEMENT PLAN:

A. Infected Individuals

Infected individuals should stay away from other people as much as possible to prevent from spreading the disease. Refer client to APRN, PCP, or PA for further follow-up.

B. Household and close contacts

1. Persons should be considered susceptible to rubella and should be immunized unless they have proof of vaccination at or after 12 months of age or they have a positive serologic test for rubella antibodies.

2. Offer immunization with MMR vaccine per ACIP recommendations. Special Consideration: The public health nurse must ensure another competent employee who is CPR certified is present before any vaccinations can be administered.

3. If exposure was during pregnancy, refer susceptible pregnant women to their prenatal healthcare provider to determine if a rubella screen has been completed and, if the case was positive and the rubella screen was negative, counseling regarding her options.

REFERENCES


