



CLINICAL DISEASE: RUBELLA



(i) Acquired Rubella

Rubella is a mild but very contagious disease caused by the rubella virus and is transmitted from person-to-person by respiratory droplets from infected persons, but can also be spread by direct contact with infected nuclei droplets or saliva. The incubation period ranges from 11 to 21 days during which viraemia occurs and the virus disseminates throughout the body. Between 20% and 50% of infected persons are asymptomatic.

In children who acquire rubella post-natally, a distinct prodromal phase is rare, whereas in adolescents and adults there is a prodromal phase lasting 1 to 5 days characterised by:

- headache
- low-grade fever
- anorexia
- malaise
- sore throat
- cough
- conjunctivitis
- coryza
- and ophthalmalgia (eye pain), before the rash develops

The rash is typically maculopapular, first appearing on the face before spreading to the trunk and the limbs. The rash seldom lasts more than 3 days, and is fainter than measles rash. The rash is frequently pruritic, especially in adults. Lymphadenopathy may precede the rash by up to a week and persists up to 2 weeks after the rash has gone.

Complications of acquired rubella include arthralgia and arthritis, which are more common in adult females than in children. The fingers, wrists, knees and ankles are most frequently affected. The arthralgia usually lasts 3-4 days. Arthralgia is rare in males and prepubertal females. Encephalitis, haemorrhagic manifestations and Guillain-Barre syndrome are rare complications.

(ii) Congenital Rubella Syndrome (CRS)

Infection with rubella during early pregnancy can lead to congenital rubella syndrome. Although foetal infection with rubella may occur throughout pregnancy, the effects are more severe if the infection occurs during the first trimester. Rubella virus enters the foetus during the maternal viraemic phase through the placenta. The damage to the foetus seems to involve all germ layers and results from rapid death of some cells and persistent viral infection in others. Chromosomal aberrations and reduced cell division are present.

Complications of CRS

Complications of CRS are usually severe and are placed into three categories:

1. Transient Complications

These complications normally resolve within a few weeks and they include:

- low-birth weight
- chronic rash
- jaundice
- thrombocytopaenic purpura
- hepatosplenomegaly
- meningoencephalitis
- myocarditis
- generalised lymphadenopathy
- hepatitis
- and haemolytic anaemia.

2. Permanent Complications

Irreversible defects include:

(i) Ophthalmic defects

- cataracts
- microphthalmia
- chorioretinitis
- glaucoma
- and retinopathy

(ii) Cardiac defects

- Patent ductus arteriosus with or without pulmonary artery stenosis
- atrial septal defects
- and ventricular septal defects

(iii) Permanent hearing loss

(iv) Central nervous system defects

- microcephaly
- psychomotor retardation
- and mental retardation

3. Delayed Complications

These develop during childhood or adulthood and include:

- endocrinopathies (diabetes mellitus)
- deafness
- ocular damage
- vascular effects
- and progressive rubella panencephalitis

Where to find us:

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