

RUBELLA-VIRUS



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ABSTRACT :

The present study adds useful information about the historical background , structure , symptoms causes , diagnosis & prevention along with awareness about RUBELLA and its impact on the coming generation.

The study proves that the childhood vaccination is not an enough step in preventing Rubella hazard while teenage girls should must be vaccinated for removing Rubella.

Keywords – Little-red, German-measles ,Togavirus , clinical manifestation , viraemia , tissue-necrosis , congenital-anomalies, stillbirth, MR-vaccine , MMR, MMRV.

HISTORICAL – BACKGROUND

The name “ RUBELLA ” is taken from a Latin-word , which means “ little-red ” which was first used in 1866.

It was first described as a separate disease from both ‘Measles’ and ‘Scarlet-fever’ (Body becomes very hot with red-marks on the skin) , by German physician – George de Maton in 1814. So it is also called “German-measles”

In 1866 , Henry veale named this disease ‘ Rubella.’

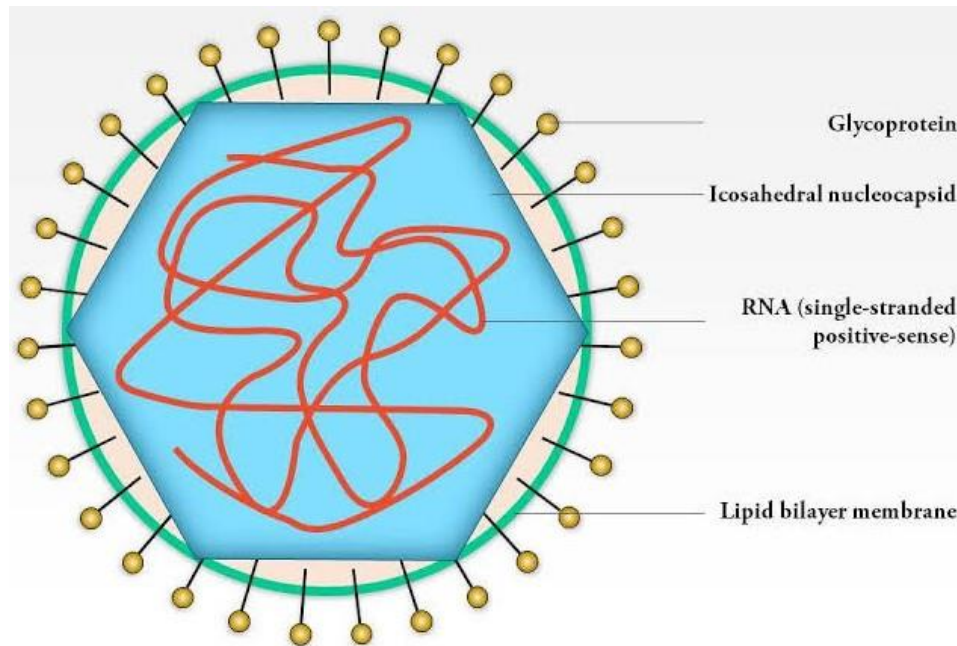
INTRODUCTION

- Rubella virus is the only member of the genus-Rubivirus and family Togavirus or Togaviridae.
- Rubella disease is caused by togavirus (rubella-virus).
- Rubella-virus is a important human pathogen that causes an acute and contagious disease. Humans are the only the reservoir for this virus.
- Rubella are also known as German measles or three days measles.

STRUCTURE

- Rubella virus is spherical in shape , 50 to 70 mm in diameter that has a single-stranded positive sense RNA – virus (it has RNA as its genetic material).

- Rubella virus is enveloped structure , composed of a capsid core containing a single copy of RNA genome.
- Outer membrane is a lipid bilayer containing glycoproteins so many spike-like projections arise from its outer surface.



Rubella virus

SIGNS AND SYMPTOMS

- The clinical manifestation [sign of something happening] are less severe than measles.

This disease is often so mild that half of people not realizing that they are infected. Specially in children , symptoms of rubella are so mild that they are very difficult to notice.

In children- Rubella disease is usually mild showing following symptoms-

- Pink or red coloured maculopapular rashes found that begin on the face (including back of the neck or behind the ear also). Then it spreads to the rest of the body.
- Low fever , usually under 102 ° f
- Headache
- Nausea
- Runny nose
- Inflammation in the living of eyelids and eye.
- Muscle-pain
- Swollen lymph-nodes



In Adults there are following symptoms may found due to rubella- infection.

- Fever (Mild)
 - Headache
 - Runny-nose
 - Conjunctivitis [inflammation in the lining of eyelids and eye.]
 - Rashes (General-discomfort before its appearance).
 - Swollen-glands (especially at the back of neck.)
 - Arthritis [Joint-pain]
 - Lymphadenitis [Lymphnodes become swollen.]
 - A sore throat etc.
- Symptoms of Rubella.



In women- When rubella infection occurs during early pregnancy (First trimester) so many problems can happen.

- The virus through viraemia infects the placenta along with the foetus , causing fetal-pathology due to tissue-necrosis (death of most of the cells in an organ.) in multiple organ-systems at the developmental stage.
- Rubella infection acquired during pregnancy can lead to congenital anomalies (abnormalities) due to tissue necrosis that may cause congenital infections [by born infections) to foetus.
- Death or premature delivery of Foetus.
- Spontaneous abortions or stillbirth .

DURATION

- The rubella rash usually lasts 3 days , lymphnodes may remain swollen for a week or more and joint-pain can last for more than 2 weeks.
- Children who have rubella infection usually recover within 1 week but adults may take time longer.

INCUBATION PERIOD

- Incubation period of rubella is 14-23 days. This means that it can take 2-3 weeks for a child to get infected with rubella after being exposed to someone with the disease.

CAUSE OF RUBELLA

- Rubella-virus is transmitted from infected person to other via-respiratory route.
- In this case rubella virus passes from person to person through tiny droplets of fluid from the nose and throat during sneezing , coughing and talking.
- Humans are the only the reservoir for this virus.
- Rubella-virus multiplies in the cells of respiratory system this is followed by viraemic (presence of virus in the blood) spread to target organs.
- Congenital [by born] infection is transmitted transplacentally.

DIAGNOSIS.

- Rubella is diagnosed by a blood-test. Clinical diagnosis based on the appearance of rashes is unreliable.

PREVENTION AND CONTROL

- There is no specific treatment for rubella , the disease can be only prevented through immunization or vaccination.
- Paracetamol may be used to reduce fever and pain. Analgesics such as acetaminophen and ibuprofen can control fever and headache.
- Rubella can be prevented by the rubella-vaccine which is a live attenuated vaccine. That means vaccine contains a live weakened virus.
- Vaccination after exposure will not prevent infection , we can only wait for it , to go away.
- All children in the age group of 9 month to 15 years must take the MR vaccine being given in the ongoing campaign.
- Two does of MR. vaccine should be given at 9-12 months and 16-24 months of age which is as part of the scheduled immunization.

However , if a child misses the scheduled dose , it can be given till 5- years of age.

- Each MR dose is 0.5 ml and should be administrated subcutaneously in the right upper arm.
- The rubella vaccine should not be given to pregnant woman who may become pregnant within one month of receiving the vaccine.

Pregnant woman who are not immune , should be vaccinated after delivery so that they will be immune during any future pregnancies.

Because the vaccine contains a live virus (though weakened) that could harm the baby.

MEASLES-RUBELLA VACCINE

- A number of rubella vaccines are available either as a single antigen component or combined with measles vaccine [MR] or measles and mumps vaccine [MMR] or measles , mumps and varicella [MMRV].
- MR vaccine is a live attenuated (weakened) vaccine for both measles and rubella. It is safe and effective provides long-term (almost life long) immunity for both the diseases.
- MR vaccine is heat sensitive as well as light sensitive.

CONCUSION

Rubella , the German measles , now becoming a global problem. So public health organization should arrange rubella vaccination campaign compulsory just-like other vaccination.

- Thus people can prevent themselves from the hazards of Rubella.
- “Immunization is the most important strategy for the healthy life and Immunity is a weapon against diseases ”

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