Measles: Causes, Symptoms, Treatment and Vaccination

Measles is also called rubeola. It is one of the commonest childhood infectious exanthems. Measles is never subclinical, but the severity of the disease is related to the infective dose of the virus and the nutritional status of the child.

Crowding tends to increase the spread of the disease.

Types

There are two types of measles:

1. Measles: This is the standard form caused by the rubeola virus.
2. Rubella, or German measles: This is caused by the rubella virus.

Rubella generally presents as mild but presents more of a risk to unborn infants than young children if a woman contracts the virus while she is pregnant.

It is neither as infectious nor as severe as standard measles.

The measles, mumps, and rubella (MMR) vaccine contain immunizations for both types.

Causes

Measles is caused by infection with the rubeola virus. The virus lives in the mucus of the nose and throat of an infected child or adult.

The disease is contagious for 4 days before the rash appears, and it continues to be contagious for about 4 to 5 days after.

The infection spreads through:

- Physical contact with an infected person
- Being near infected people if they cough or sneeze
- Touching a surface that has infected droplets of mucus and then putting fingers into the mouth, or rubbing the nose or eyes

The virus remains active on an object for 2 hours.

Clinical Features

The incubation period is 7–10 days.

Many children present with fever.

Catarrhal phase 2–3 days with a dry hacking cough, red eyes, and runny nose followed by a maculopapular rash. The rash usually starts behind the ears and spreads over the head and neck. After a couple of days, it spreads to the rest of the body, including the legs. As the spots grow, they often join together.

Assess for danger signs, clouding of the cornea, or extensive mouth ulcers.

Koplik's spots, or very small grayish-white spots with bluish-white centers in the mouth, insides of cheeks, and throat.
Generalized body aches

Complications

These must be looked for in all patients:

Serious signs such as persistent fever with darkening of the rash (“black measles”) and subsequent

Stomatitis and mouth ulcers compromises sucking and Laryngitis:

Distinguish between benign prodromal laryngitis from that due to a secondary infection, which may be bronchopneumonia:

Usually severe; Gram-negative organisms or Diarrhoea: Either due to virus or from a secondary

Vitamin A deficiency. This develops because measles increases the consumption of vitamin A and often precipitates xerophthalmia and subsequent blindness.

Encephalitis may be the presenting clinical feature caused by the measles virus itself; it occurs on about the 5th day of the rash, subacute sclerosing panencephalitis (SSPE) is an important late

These children may also present with malnutrition precipitated by anorexia, stomatitis, fever, vomiting, diarrhoea, and others.

Management

Treatment with antibiotics is not recommended. Give an antibiotic only if pneumonia or otitis media are present.

Consider staphylococcal pneumonia if the child has had prior antibiotic treatment for pneumonia

Give two doses of oral vitamin A for treatment as follows: First dose in the clinic then give the mother 1 dose to give at home the next day: 50,000 IU for young infants aged less than 6 months and <8kg 100,000 IU for infants aged 6–12 months 200,000 IU for children 12 months to 5 years

Treat fever (temperature 39°C) if present with antipyretics.

Careful skin and eye care should be Give antibiotic eye ointment for conjunctivitis only if there is purulent eye discharge.

Severe stomatitis/mouth ulcers may prevent feeding. Maintaining oral hygiene and, where there is candidiasis (thrush) in the mouth, application of gentian violet after cleaning it with salt water is beneficial.

Supervised feeding with expressed breast milk feeds and occasionally nasogastric tube feeding will be needed.

Increasing the frequency of feeding (an extra meal per day over the usual feeding) after measles illness is very important to help the child regain lost weight adequately.

You may need to admit the child if the following are present:

- A haemorrhagic rash
- Stridor (from infection of the larynx and trachea; laryngotracheitis)
- Pneumonia, dehydration, or severe under-nutrition
- Difficulty in drinking or eating

For the hospitalized child, give supportive care.

Prevention of measles

Measles is prevented to a larger extent by immunization. Measles immunization is given to babies who are 9 months or above irrespective of whether they have suffered from measles/measles-like illness.

Measles immunization should be given to babies 6 months and above in the following circumstances:

- Siblings to a child with measles
- Children living in crowded places, refugee camps, children's
- Children admitted to the hospital for any condition (age 6–9 months).
- Children in a locality with measles

All children 6 months of age or older who are not immunized against measles and are brought to a health facility for any reason should be immunized and given Vitamin A supplements before leaving that facility.

Advice to Mothers/Caregivers

- Ensure all her children are fully immunized.
- Treat complications that may be due to measles.
    - Conjunctivitis: With tetracycline eye ointment; review after 2 days. If the child is improving ask the mother to complete treatment.
    - Treat acute otitis media with cotrimoxazole and review the child after 5 days.
    - Mouth ulcers are treated with gentian violet or nystatin if has oral thrush.
    - Treat pneumonia using appropriate antibiotics.
    - Malnutrition commonly follows an infection of It is precipitated by anorexia, stomatitis, fever, vomiting, diarrhea, and other complications.
- Nutritional follow up is very Increasing the frequency of feeding (an extra meal per day over

the usual feeding) after measles illness is very important to help the child regain lost weight adequately.

After a bout of measles, a person gains immunity for the rest of their life. They are very unlikely to contract measles a second time.

In the United States, the measles, mumps, and rubella (MMR) vaccine are routinely given at 12 to 15 months of age, followed by a booster shot before entering school at the age of 4 to 6 years.

Newborns carry their mother's immunity for a few months after birth if their mothers are immune, but sometimes the vaccine is recommended before the age of 12 months, and as early as 6 months.