Patient with fever, rash & cough

Speaker

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Live case

PP > Rabbi, an 1 year old, male child presented with

* Fever, cough, red eyes runny nose for 5 days
* Skin eruption for 3 days

H > He first developed fever associated with sneezing, red eyes, runny nose and irritating cough. After 2 days, mother noticed skin eruption which first appeared in the face and back of the neck, later spreading downwards over the trunk and extremities.

The temperature continued at the time of appearance of rash. He was immunised against all EPI vaccines including first dose of measles. He was treated with paracetamol and amoxicillin.

E > He looked fretful and fidgety and was febrile (101’F) with RR 45/ min, HR 110/min. His throat was congested. The rash was maculopapular and confluent in some areas. It was also itching for the last one day. His Wt was 10kg , length 80cm, WLZ > -1 SD. His lungs were clear and heart was normal to auscultation.

Lab:

CBC

C-RP

Dengue NS1

CXR

Measles IgM antibody

Provitional dx:

Measles

D/D:

German measles

Varicella

Dengue haemorrhagic fever

Meningococcemia

Covid PIMS

measles

Learning Objectives

- Introduction
- Burden of the disease
- Epidemiological factors
- Clinical features
- Complications
- Treatment
- Prevention

Introduction

- Also called as ***Rubeola*** meaning red spots
- Highly infectious viral disease (group : myxovirus)
- Occurs only in humans
- Has high morbidity and mortality in developing countries

Burden of the Disease

- Endemic in all parts of the world
- Epidemic occurs when the proportion of susceptible children reaches about 40%
- When introduced in a virgin community, >90% of that community will be infected

Challenges for measles elimination

- Weak immunization system
- High infectious nature of measles
- Increasing refusal of immunization by some population
- Changing epidemiology of measles
- Gap in human and financial resource at country, regional and global level

Epidemiological determinants

- **AGENT FACTORS**

- Agent: caused by RNA paramyxovirus
- Source of infection: a case of measles
- Infective material: secretion of nose, throat and respiratory tract of a case
- Communicability: highly infectious during prodromal period and at the time of eruption, communicability declines after appearance of rash

- **Host factors**

- Age: 6 months to 3 years of age in developing countries
- Gender: male = female
- Immunity: one attack of measles confers lifelong immunity, infants are protected from maternal antibodies upto 6 months of age
- Nutrition: more severe in malnourished children

- **Environmental factors**

- The virus can spread in any season

Transmission

- Directly from person to person mainly by droplet infection
- From 4 days before the appearance of rash to 4 days thereafter
- Portal of entry: respiratory tract
- Entry can also occur through conjunctiva

Clinical Features

- IP: 10 days from exposure to onset of fever and 14 days from exposure to onset of rash
- Natural history comprises of 3 stages:
  - Prodromal stage
  - Eruptive stage
  - Post measles stage

Prodromal stage

- Begins 10 days after infection and lasts untill day 14.
- c/f: fever, coryza with sneezing and nasal discharge, cough, redness of eyes, lacrimation and photophobia.
- Koplik's spot (pathognomonic sign) appears a day or 2 before the appearance of rash.

Eruptive phase

- Dusky red, macular or maculo-papular rash appears.
- Begins behind the ears and spreads rapidly in a few hours over the face and neck and extends thoughout the body upto lower extremities in 2-3 days
- Mostly discrete but sometimes it becomes confluent.
- Lesions and fever disappear in 3-4 days.
- During prodromal phase and first 2-5 days of rash, virus is present in tear, nasal and throat secretion, urine and blood.

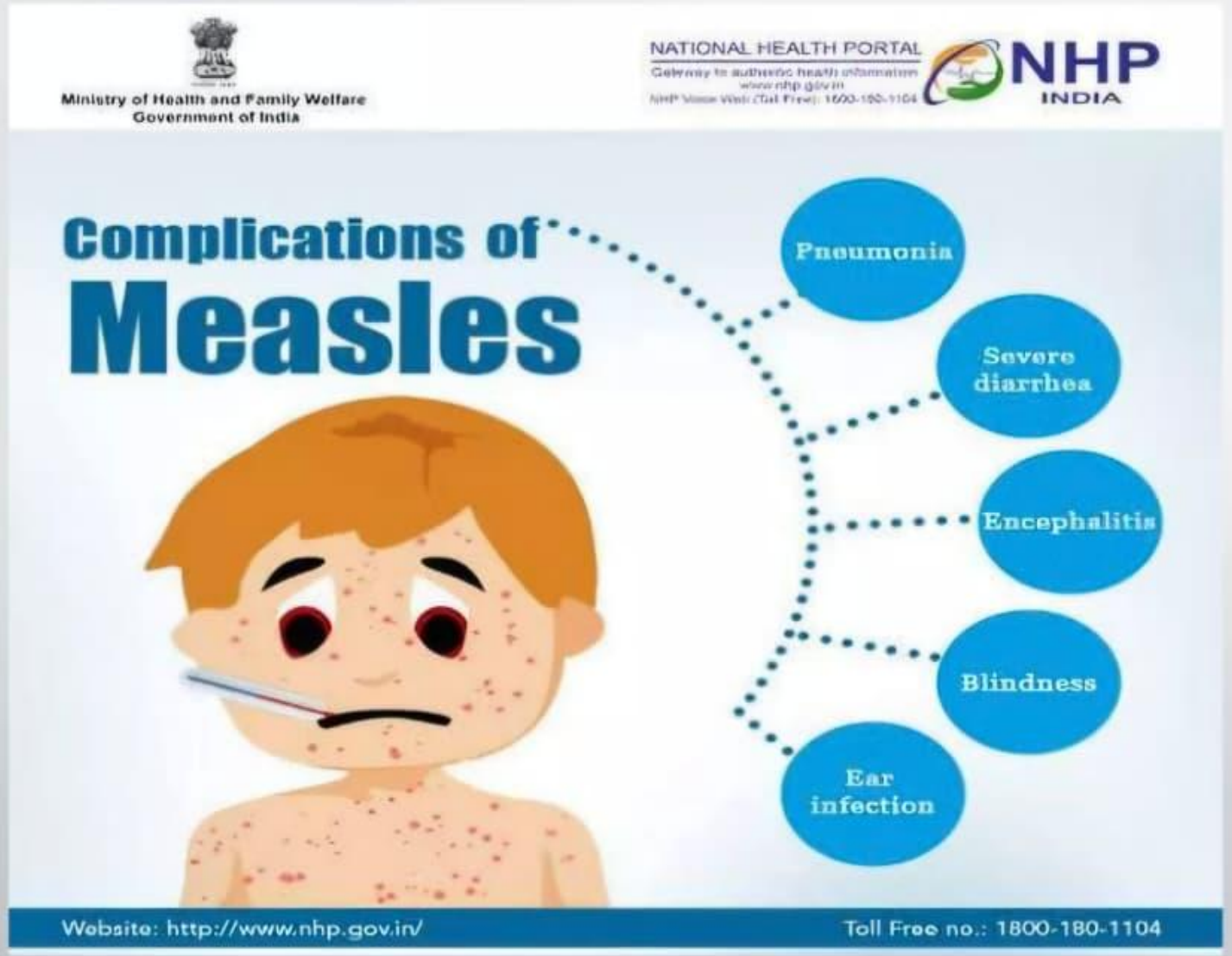
Post measles stage

- Weight loss, weakness
- Gradual deterioration into chronic illness – due to increased susceptibility to other bacterial and viral infections, nutritional and metabolic effects etc
- May lead to growth retardation, diarrhoea and several other infections.


1.Fever
2.Nonproductive cough
6.Red skin rash
RUBEOLA VIRUS
5.Conjunctivitis
3.Runny nose
4.Sore throat
SYMPTOMS OF
MEASLES
Protected by vaccination for infants 9-12 months

Complications

- Occur in approximately 30% of reported cases
- Factors increasing the risk of complications:
  - Age <5 years
  - Overcrowding
  - Malnourishment (vitamin A deficiency)
  - Immunological disorder - AIDS
- Common complications includes: otitis media, laryngo-tracheo-bronchitis, diarrhoea and pneumonia.
- Rare complication: SSPE
- Severe complication occuring in immunocompromised individuals are acute progressive encephalitis and giant cell pneumonia.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NHP Voice Web (Toll Free): 1800-180-1104
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Complications of
Measles
Pneumonia
Severe diarrhea
Encephalitis
Blindness
Ear infection
Website: http://www.nhp.gov.in/
Toll Free no.: 1800-180-1104

Treatment

- No specific treatment
- Management includes- supportive care and prevention and treatment of complications and secondary infections
- All cases of measles should be treated with vitamin A because many children develop acute deficiency of vitamin A
- Age specific daily dose of vitamin A to be given on the day of diagnosis and repeated on the next day are: 50,000 IU for children <6months, 1lakh IU for children 6-11months and 2lakh IU for children ≥ 12 months.
- If child develops signs of vitamin A deficiency, 3 rd dose is given 4 – 6 weeks later.

Prevention- vaccination

Know More about Measles

Prevention

- **Vaccination** against measles is the most effective preventive measure
- Maintain good personal and environmental hygiene; **Keep hands clean**
- **Cover nose and mouth** when sneezing or coughing. Wash hands thoroughly
- **Clean** used toys and furniture **properly**
- **Consult doctors promptly** if develop symptoms of measles
- **Refrain from work or school** till 4 days from the appearance of rash to prevent spread of the infection

CHP 衞生防護中心 Centre for Health Protection

衞生署 Department of Health


Thank You!