

FEVER WITH RASH

Authors: Ass. Professor Baha Daa Moohee
Alosy, DCH, FICMSP Departments of
Pediatrics- Collage of Medicine. University
of Tikrit -IRAQ.

MEASLES

Etiology:

Specific RNA virus. Only one serotype is known (life long immunity after infection).

Essentials of Diagnosis:

- History of exposure 10-12 days previously.
- 3-5 days prodroma (fever, conjunctivitis, coryza and cough).
- Koplik's spots (Pathognomonic)
- Maculopapular confluent rash.

Mode of Transmission:

-Contact with secretions or droplets of an infected child.

Period of Infectivity:

-4 days prior to and 5 days after appearance of the rash.

Clinical Manifestations: An incubation stage 10-12 days

- ◉ **Prodromal stage** with an exanthem (Koplik's spots), usually lasts 3-5 days. **Koplik's spots** are grayish white dots on an erythematous base on the anterior portion of the buccal mucosa. With appearance of rash, Koplik's spots start to disappear.

- **Final stage** starts with a maculopapular rash accompanied by high fever. The rash starts behind the ears, and along the hairline. Then the rash spreads on the face, neck, upper arms, and upper part of the chest within the first 24 hours.
- **On 2nd day.** The rash appears on the back, abdomen, arms and thighs.
- **On 3rd day.** It reaches the feet and begins to fade on the face.
- An abrupt drop in temperature to normal. The rash fades downward in the same sequence in which it appeared



Diagnosis: Clinical features but Laboratory tests is rarely needed.

- Leukocytic count tends to be low with a relative lymphocytosis. Leucocytosis is indicative of secondary bacterial infection.

Complications: *The main complications of measles are otitis media and pneumonia. *Encephalitis; *Diarrhea and dysentery.

*Corneal ulcer and stomatitis. *Activation of a tuberculous focus.

Supportive therapy: -Antipyretics
(paracetamol)

- Bed rest and an adequate fluid intake are indicated.

- ⦿ A nourishing easily digested diet and proper cleanliness.
- ⦿ **Vitamin A:** A single dose of 50,000 to 200,000 IU.
- ⦿ A broad spectrum **antibiotic** in presence of infections.

Prevention: *Isolation should be maintained from the 7th day after exposure until 5 days after the rash has appeared.

*Measles vaccine.
prophylaxis.

- Hemorrhagic measles

*Post-exposure

- PEM

GERMAN MEASLES (Rubella)

Etiology: Rubella virus (an RNA virus). ***Incubation Period:*** 2-3 weeks.

Mode of Transmission:

- Droplet infection or direct contact with a case
- Transplacental congenital infection from infected mother.

Prodromal stage: Very short and mild that it goes unnoticed.

Contagiousness: Not as contagious as measles.

- Virus is present in nasopharyngeal secretions, blood, feces and urine.
- Virus has been recovered from the nasopharynx 7 days before exanthema and 7-8 days after its disappearance.

- Infants with congenital rubella are contagious for at least 10-12 months.

Clinical Manifestations:

- Age: Any age, peak incidence 5-14 years
- Lymphadenopathy is evident at least 24hr before the rash appears.
- The exanthem begins on the face and spreads quickly on the first day.
- 2nd day. The rash is confluent and pinpoint like that of scarlet fever with mild itching.
- 3rd day. The rash generally disappears with minimal desquamation and no scarring.
- Rubella without rash may occur as fever with enlarged tender lymphadenopathy which may persist for a week or more.



Complications:

Complications are relatively uncommon in childhood.

- ⊙ Encephalitis similar to that seen with measles
- ⊙ Polyarthritits • Congenital rubella syndrome

Prophylaxis:

- ⊙ Active immunization (MMR vaccine)
- MMR vaccine should not be given to pregnant women; vaccinated women should avoid pregnancy for 3 months after vaccination. Natural infection gives life- long immunity.

- Passive immunization. It is not indicated except in non-immune pregnant women. Immune serum globulin (ISG) in big doses is given I.M within one week of exposure.

Treatment:

- 1- Antipyretics for fever.
- 2- Treatment of complications

Congenital Rubella

If rubella develops during the first trimester of pregnancy, (which is the period of organogenesis).

Features of congenital rubella syndrome:

- 1- Intrauterine growth retardation, small for gestational age and failure to thrive
- 2- Nerve deafness
- 3- Microcephaly and mental retardation
- 4- Congenital heart disease (PDA, VSD)
- 5- Cataract, glaucoma, and cloudy cornea
- 6- Thrombocytopenic purpura, hepatosplenomegaly, and osteopathy

VARICELLA (CHICHEN POX)

This is a highly contagious infection characterized by a pleomorphic rash.

Etiology: Varicella-zoster virus which cause Chicken pox in a non immune and Herpes zoster in a partially immune individual.

Mode of Infection: 1-Direct contact. 2-Droplet infection. 3-Air borne.

Period of Infectivity: Extends from one day before the onset of rash till crusted.

Incubation Period: 2-3 weeks.

Clinical Manifestations: **Age:** Any age , the most common from 5-10 years.

VARICELLA (CHICHEN POX)

- ◉ **Prodromal stage**: very mild and short.
- ◉ **Eruption stage**: (pleomorphic rashes), all forms of lesions being present.
- ◉ **The rash appears** as crops of macules which within hours pass through a papular stage, then progress to develop vesicles and pustules.
- ◉ **Pruritus** may be intense. -The rash may appear on mucous membranes with ulceration in the mouth.

Complications:

- ⦿ Secondary bacterial infection of skin lesions.
- ⦿ Hemorrhagic complications: thrombocytopenia, purpura, hematuria, and gastrointestinal hemorrhage.
- ⦿ Encephalitis and cerebellar ataxia.
- ⦿ Reye syndrome: encephalopathy and hepatic dysfunction.

Differential Diagnosis:

- 1 -Herpes zoster: Unilateral rash occurs along one or more dermatome of peripheral nerves.
- 2-Impetigo: It is pyogenic infection of the skin caused by staphylococci or streptococci.
- 3- Papulo-vesicular urticaria:
 - Allergic reaction, mostly to an insect bite. -
 - The lesions are mainly distributed over the extensor surfaces of the extremities.
- 4-Scabies: -There is history of contact with a case. -Itching is more by night. -Thread-like burrows in interdigital spaces of fingers and toes.



Varicella rash ○



Treatment:

- Local and systemic antihistaminic to alleviate itching.
- Non- aspirin antipyretics (e.g. paracetamol).
- Local application of calamine lotion.
- Patients at risk of severe chickenpox should receive acyclovir (antiviral agent).
- Treatment of complications.

RESEOLA INFANTUM

- Roseola (exanthem subitum) is a mild febrile exanthematous illness occurring almost exclusively in infants and young children. It is characterized by:
- High fever for 3-5 days followed by
- Precipitous drop to normal temperature with a generalized maculopapular rash.
- **Etiology:** Human herpes virus 6 and 7 (Sixth disease)
- **Mode of Transmission:** Droplet infection
- **Incubation Period: 1 - 2 weeks**

Clinical Manifestations:

- Season: mainly spring
- Prodrome of mild rhinorrhea, and mild redness of conjunctiva and pharynx.
- Age: Most cases occur from 6 months to 3 years of age,
(peak at 6-15 mons).
- *Fever: Sudden high fever lasts 3-4 days without any localizing signs. It may be associated with febrile convulsions.*

- **Maculopapular Rash** Appears On The 4th Day With The Drop Of Fever. It Starts On The Trunk And Rapidly Spreads Over The Arms And Neck, Leaving The Face Minimally Involved, And Lasts Only 24 Hours.
- This Occurrence Of Rash Is Described As A "**Rainbow Following The Storm**".

Diagnosis: This Is Only Clinical.

Treatment:

- No Need For Antiviral Therapy
- Antipyretics Such As Paracetamol.
- Supportive Treatment For Febrile Convulsions.

Scarlet fever

- Incubation period is usually 3-6 days.
- The onset is abrupt with fever, headache, dysphagia, vomiting, with approximately 3 days duration.
- **Exanthem** – Characteristic:
 - Filatov's mask
 - Pastia's lines
- The erythema abates in 7-9 days.
- **Enanthem** consists of:
 - Characteristic appearance of tongue
 - Exudative or erythematous pharyngitis and tonsillitis, and very rarely, ulcerative aspect of tonsillitis.

Descumation period starts after 7-14 days of illness

Differential diagnosis

- Other infectious causes of tonsillitis
- Different eruptive disease
- Kawasaki

Complications of scarlet fever

- Suppurative complications
- Non suppurative complications: acute rheumatic fever, acute glomerulonephritis

Laboratory features

Throat culture - positive for group A streptococci. ■

Rapid antigen detection tests in throat swab. ■

White blood cell count reveals leukocytosis,
hypereosinophilia, neutrophilia. ■

Increased ESR. ■

Intracutaneous administration of erythrogenic
toxin elicits local erythema (positive Dick test – not
used at the present time). ■

Treatment

- To prevent primary attacks of rheumatic fever, treatment should ensure penicillin levels for at least 10 days.

This can be achieved by 7 days of penicillin G (2-4 million IU/day) followed by 3 administration of benzathine penicillin (every 7 days).

- If penicillin allergy is suspected, the drug of choice is erythromycin (30-40 mg/kg/day).

Scarlet fever



Scarlet fever



BY DR. M. OSAMA HUSSEIN MD