FEVER AND RASH

TUCOM
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OBJECTIVES:

- Common causes of fever and rash
- Short notes about each type;cause,clinical feature, incubation period ,treatment and complication.

common

Measles
Scarlet fever
Rubella(German measles)
Varicella zoster
Erythema infectiosum
Roseola infantum
Kawasaki disease

MEASLES

.Paramyxovirus

.Incubation period: 7 –14 days

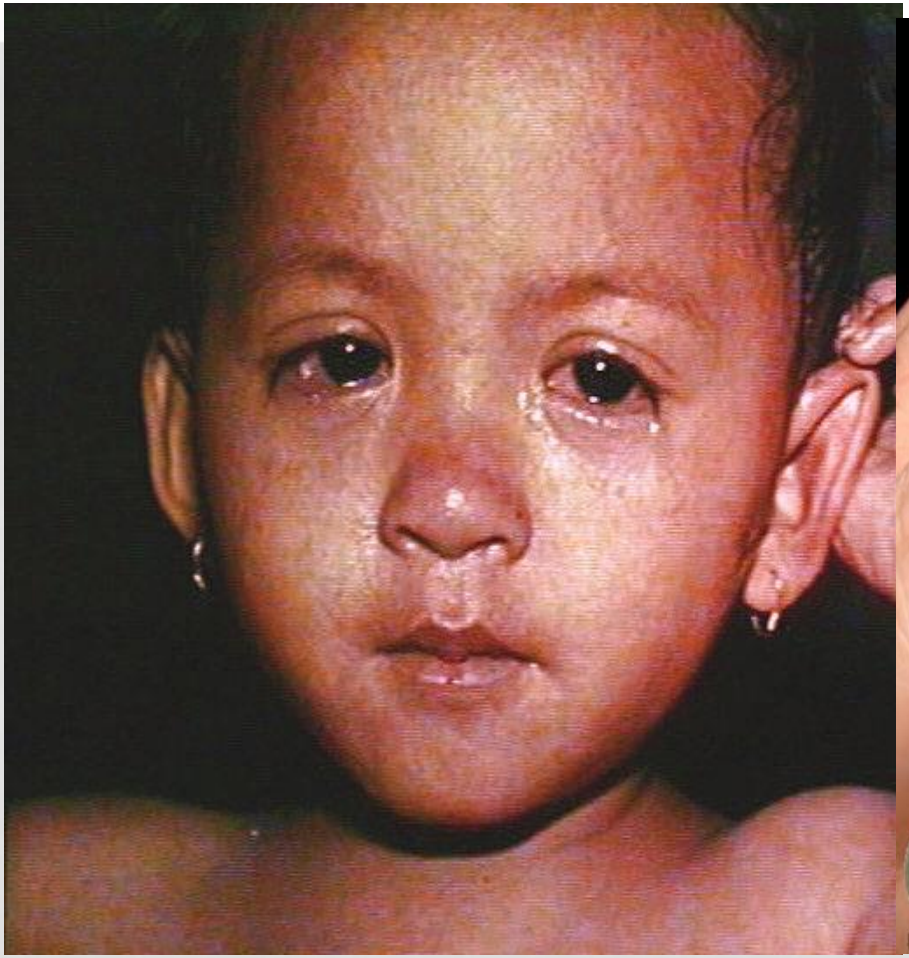
Very infectious (90% attack rates in household contacts)

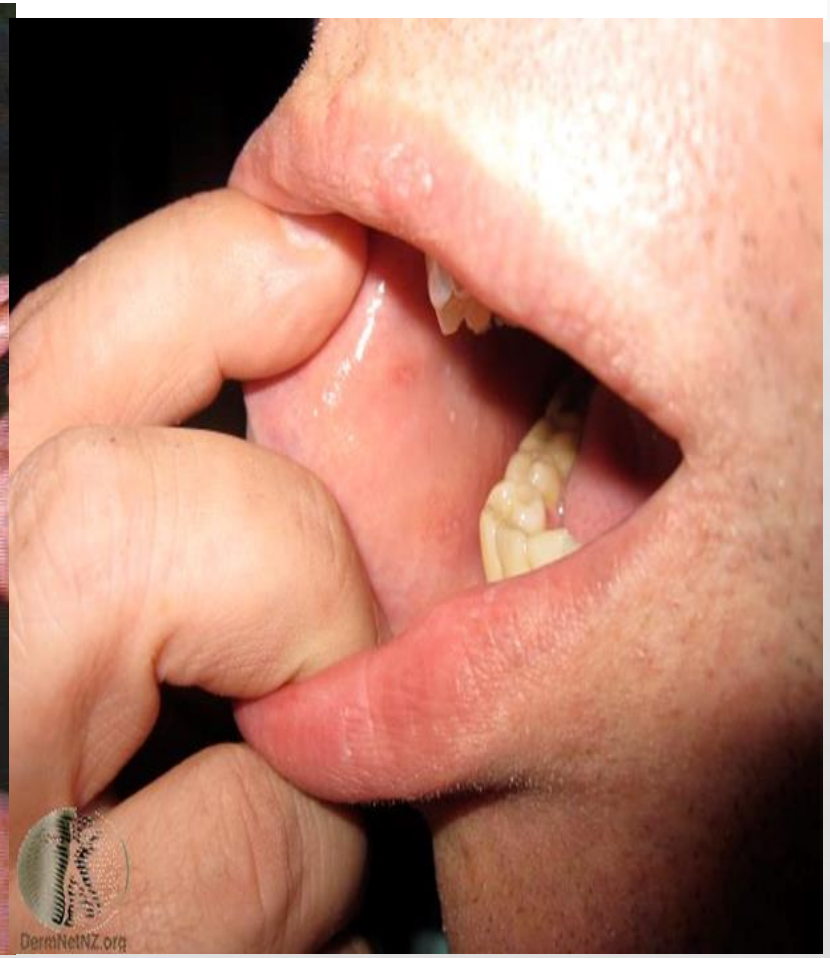
Droplet spread – oral secretions

Typical course 7-10 days (without complications

Risk factors: non-vaccination

- Prodrome: day 7-14 after exposure
  - Fever
  - **C**ough
  - **C**oryza
  - **C**onjunctivitis
  - **K**oplik’ s spots (1-2 days before rash)
  - Rash (D3-7) started behind ears
  - Miserable

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COMPLICATION

- Pneumonia- giant cell pneumonia (direct viral infection) or superimposed bacterial infection (***Streptococcus pneumoniae, Haemophilus influenzae & Staphylococcus aureus***)
- Croup, tracheitis or bronchiolitis
- Acute otitis media
- Sinusitis and mastoiditis
- Retropharyngeal abscess
- Activation of pulmonary tuberculoses

COMPLICATION

- Diarrhea & vomiting
- Appendicitis- obstruction of the appendiceal lumen by lymphoid hyperplasia
- Febrile seizures
- Encephalitis- 1-3/1,000 cases of measles; postinfectious, immunologically mediated process, not due to a direct viral effect

COMPLICATION

- Measles encephalitis in immunocompromised patients- from direct damage to the brain by the virus
- Thrombocytopenia
- Myocarditis
- Bacteremia, cellulitis & toxic shock syndrome
- Measles during pregnancy-high maternal morbidity, fetal wastage & stillbirths & congenital malformations in 3% of live born infants

MEASLES SSPE

- Fatal degenerative disease of central nervous system
- Chronic complication of measles
- Result from a persistent infection with an altered measles virus that is harbored intracellularly in the CNS for several years
- Usually after 7-10 year the virus apparently regains virulence & attacks the cells in the CNS
- Change in personality, gradual onset of mental deterioration & myoclonus
- Measles vaccination protects against SSPE

TREATMENT

- **SUPPORTIVE**
- Maintenance of hydration, oxygenation & comfort
- Antipyretics-comfort and fever control
- Vitamin A supplementation-reduced morbidity and mortality from measles
- **Single dose of 200,000 IU orally for children ≥1 yr of age (100,000 IU for children 6 mo–1 yr of age and 50,000 IU for infants <6 mo of age)**

PREVENTION

- **Isolation-** from 7 days after exposure to 4-6 days after the onset of rash
- **Vaccine or immunoglobulin-** vaccine is effective in prevention or modification of measles only if given within 72 hr of exposure. Immune globulin may be given up to 6 days after exposure to prevent or modify infection.
- **Immune globulin-**for susceptible household contacts younger than 6 months of age, pregnant women & immunocompromised persons
- **Immunization during an outbreak-**immunize infant as young as 6 months of age; additional dose at 12-15 months of age

RUBELLA

- Rubella (German measles or 3-day measles)
- Mild exanthematous disease of infants & children
- Major clinical significance- fetal damage as part of the congenital rubella syndrome
- **Etiology:** Rubella virus; RNA virus of genus *Rubivirus* under family Togaviridae
- Humans are the only known host

CLINICAL FEATURE

- Mild/subclinical
- Prodrome
  - Eye pain, conjunctivitis, headache, fever, malaise
- Rash
  - Maculopapular
  - Starts on face, spreads caudally to trunk, extremities
  - Similar to Measles, but spreads quicker
- Lymphadenopathy
  - Posterior cervical, posterior auricular, suboccitpital
- Forchheimer spots (20%)
  - Petechiae on soft palate

COMPLICATION

Joints

- Arthralgia/arthritis
- Rare in children
- Lasts about 9 days

Neurological

- Encephalitis rare
- 2-4 days after rash
- Parasthesia

Other

- Thrombocytopaenia
- Purpura
- Myocarditis
- Testicular pain
- Haemolytic anaemia

ROSEOLA INFANTUM

- DNA virus
- Sixth disease
- Incubation: 9 days
- Transmission: oral secretions
- 80% children seropositive by age 1
- Peak infection 9 – 21 months

ROSEOLA INFANTUM

Human herpes virus6

- Fever and convulsion (6-15%)
- Diarrhoea (70%)
- Usually well
- Rash
  - evolves over 12 hours, fades 2-3 days
  - Appears as fever abates
  - Starts on neck/trunk, spreads to extremities
  - Erythematous, blanching, macular/mac-papular
- Bulging fontanelle (25%)

RI RASH

TREATMENT

- Supportive
- Anti-virals in immunocompromised

VARICELLA ZOSTER

- DNA virus
- Incubation: 10-21 days
- Tramission: Droplet
- Highly infectious (1-2 days before rash, until crusts)

Prodrome

- Fever
- Headache
- Malaise
- Pharyngitis

Rash

- Pruritic
- Macules → papules → vesciles
- Hairline

VZ RASH

COMPLICATION

- Mild thrombocytopenia, petechiae (common); purpura, hemorrhagic vesicles, hematuria & gastrointestinal bleeding (rare)
- Cerebellar ataxia, encephalitis, Guillian-Barre syndrome, transverse myelitis
- Pneumonia
- Nephritis, nephrotic syndrome, hemolytic-uremic syndrome
- Arthritis
- Myocarditis, pericarditis
- Pancreatitis

COMPLICATION

- Orchitis
- Secondary bacterial infections of the skin (**group A streptococci & *S. aureus***): impetigo, cellulitis, lymphadenitis & subcutaneous abscesses; varicella **gangrenosa**- more invasive skin infections

CONGENITAL VARICELLA SYNDROME

- In infants born to women who have varicella **before** 20 wk of gestation

Characterized by

- Cicatricial skin scarring in a zoster-like distribution, limb hypoplasia
- Neurologic abnormalities: microcephaly, cortical atrophy, seizures & mental retardation
- Eye abnormalities: chorioretinitis, microphthalmia & cataracts
- Renal abnormalities: hydroureter & hydronephrosis
- Autonomic nervous system abnormalities: neurogenic bladder, swallowing dysfunction & aspiration pneumonia

CONGENITAL VARICELLA SYNDROME

- If a baby is born <4 days after onset of maternal varicella or upto 2 days before the onset: high risk for severe varicella & a high mortality rate

TREATMENT

- Supportive treatment for fever & itching

Indications for acyclovir in children:

- Malignancies
- BMT
- Chmotherapy or high dose steroid treatment
- HIV infection
- Severe vaicella
- Chronic skin disease
- Chlidren >12 years

Treatment should be initiated within 24 hr of the onset of rash

SCARLET FEVER

- Group A beta-haemolytic streptococcus
  - Primary
    - Pharyngitis
    - Skin
      - Cellulitis
      - Impetigo
  - Non-Suppurative complications
    - **Scarlet fever**
    - **Streptococcal toxic shock syndrome**
    - Acute glomerulonephritis
    - Acute rheumatic fever
  - Suppurative complications
    - Tonsillar abscess
    - OME
    - Necrotizing fasciitis

SCARLET FEVER

- Aetiology; Streptococcus pyogenes (Group A)
- Pathogenesis: erythrogenic toxin
- Incubation: 1-3 d
- Prodrome: 1-2 d fever,sorethroat,headache,flushed cheeks
- Rash: punctate erythematous central and blanches
- Signs: circumoral palor, strawberry tongue, desquamation post rash
- Infectivity: up to 3 weeks or 24h after pen
- Transmission: respiratory
- Complications: septicaemia, endocarditis, OM, Quinsy rheumatic fever, acute nephritis


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SF RASH

Initial rash is blotchy, starting below the ears, neck, chest, armpits and groin, then becoming generalized

Rash then develops the characteristic "sandpaper on sunburnt skin" feel

After 7 days, the rash fades and desquamation, similar to peeling sunburn, occurs. Peeling is most prominent in the armpits, groin, tips of finger/toes. May continue for weeks.

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).

THANK YOU