

CHILDHOOD COMMUNICABLE DISEASES

Communicable diseases are common in childhood & vary from mild inconveniences to life threatening disorders. Physicians need to differentiate between these common conditions & initiate management

Measles

Rubella & Roseola

Infantum

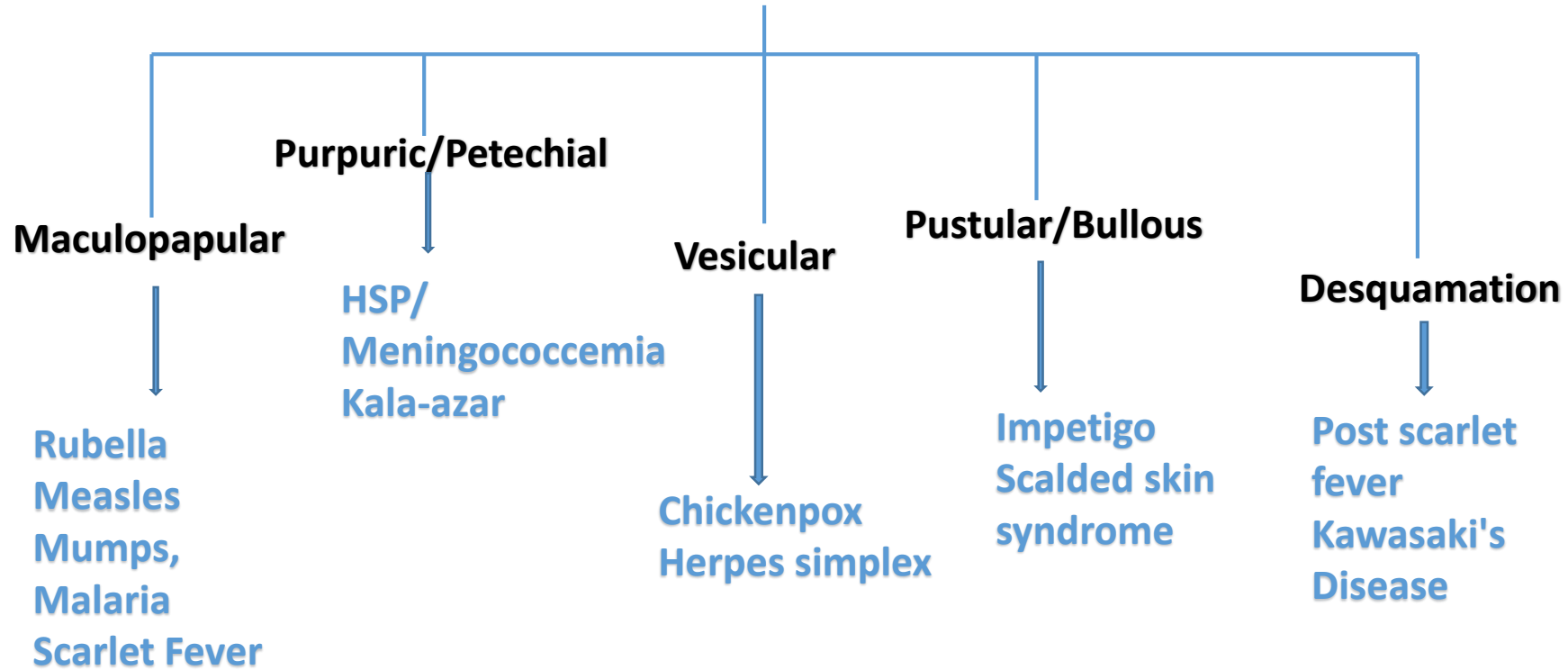
Measles & Rubella

Learning Objectives:



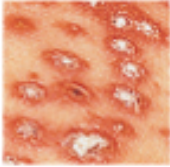


1. Define the Concept
2. Identify the etiology
3. Describe the clinical presentation of Measles & Rubella
4. Mention the differential diagnosis of Measles & Rubella
5. Identify the complications of Measles & Rubella
6. Clarify the prevention
7. Outline treatment

Five years old child presented
with fever & rash of three days
duration

Fever with Rash



Rashes caused by childhood infections

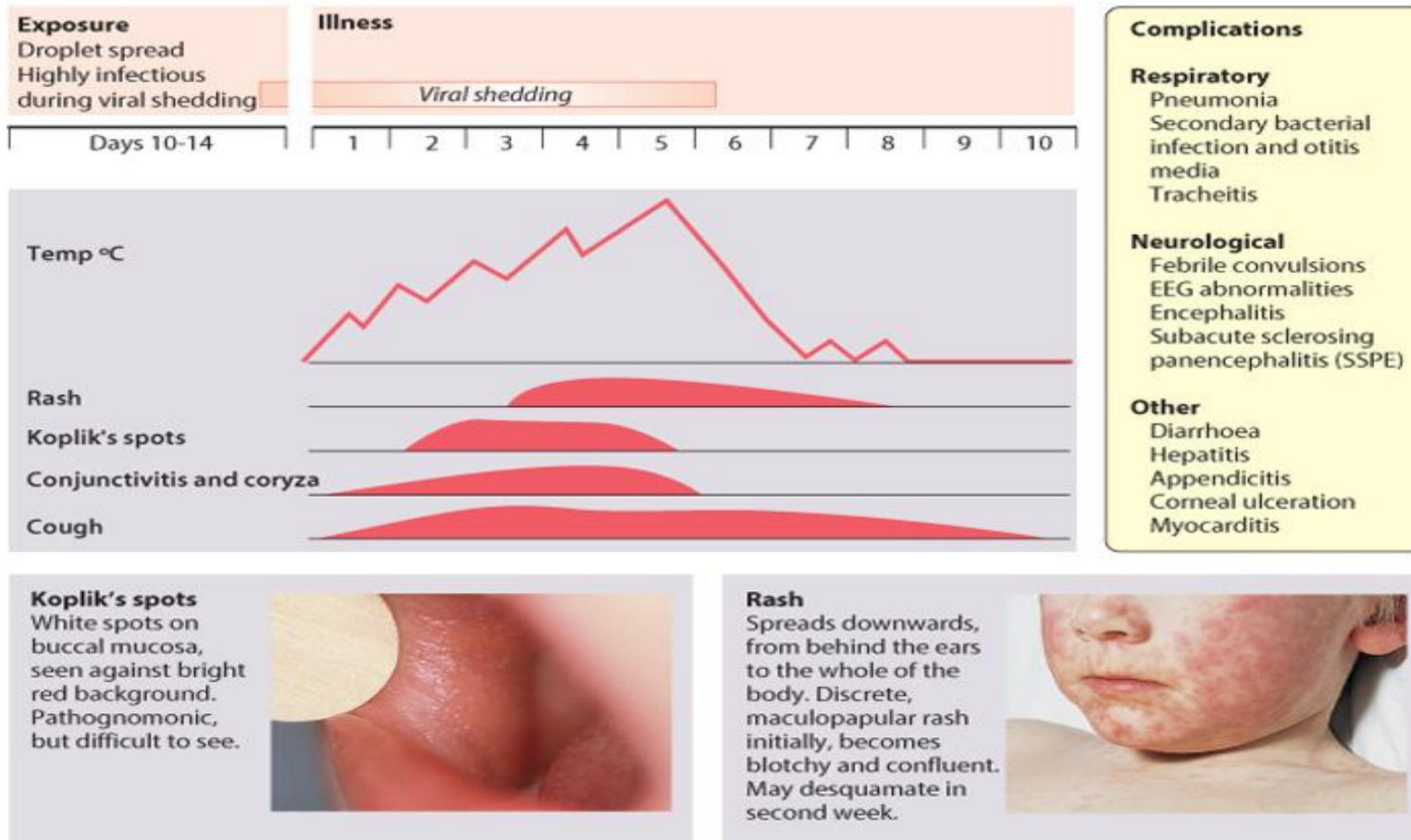
	Type of lesion	Infection
	Macular/papular/maculopapular Macules – red/pink discrete flat areas, blanch on pressure Papules – solid raised hemispherical lesions, usually tiny, also blanch on pressure	Rubella (macular only), measles, HHV6/7, enterovirus Uncommon: scarlet fever, Kawasaki's disease (but remember drug rashes)
	Purpuric/petechial Non-blanching red/purple spots, test with a glass	Meningococcal, Henoch–Schönlein purpura, enterovirus, thrombocytopenia
	Vesicular Raised hemispherical lesions, <0.5 cm diameter, contain clear fluid	Chickenpox, shingles, herpes simplex, hand, foot and mouth disease
	Pustular/bullous Raised hemispherical lesions, >0.5 cm diameter, contain clear or purulent fluid	Impetigo, scalded skin syndrome
	Desquamation Dry and flaky loss of surface epidermis, often peripheries	Post-scarlet fever, Kawasaki's disease

Illustrated textbook of paediatrics 4th ed.

Incubation & school exclusion period of common childhood infections

Illness	Incubation (days)	Period of infectiousness	School/nursery exclusion
Chickenpox (varicella)	10-23 (median 14)	-2 to +5 days	Until all lesions have crusted
Gastroenteritis (viral)	1-10	NK	24 hrs from last episode of diarrhea
Gastroenteritis (bacterial)	1-10 depending on organism	1-3 wks depending on organism	24 hrs from last episode of diarrhea except for E. Coli – 2 -ve stools
Herpes simplex stomatitis	3-5	NK	Until lesions have crusted or been treated
Impetigo	2-15	NK	Until lesions are dry
Measles	6-19 (median 13)	1-2 days prior to rash to 6 days after	5 days from onset of rash
Mumps	15-24 (median 19)	NK	7 days from onset of parotitis
Rubella	15-20 (median 17)	Most infectious in prodrome	5 days from onset of rash
Tuberculosis	1-12 mo.	NK	If sputum +ve: for 2 wks after treatment starts; culture -ve: none

Clinical features and complications of measles



Illustrated textbook of paediatrics 4th ed.

Treatment

is symptomatic. Children who are admitted to hospital should be isolated.

In immunocompromised pts, the antiviral drug [ribavirin](#) may be used.

Vitamin A which may modulate the immune response, should be given in developing countries



Koplik spots on the buccal mucosa during the 3rd day of rash

Nelson textbook of ped.20th ed.







Rubella (German measles)

Is a mild disease. It occurs in winter & spring. It is an important infection as it can cause severe damage to the fetus .

The IP is 2-3 wks. It is spread by the respiratory route,

The prodrome is usually mild or none at all.

The **maculopapular rash** is often the first sign of infection, initially on the face & then spreading centrifugally to cover the whole body.

It fades in 3-5 days. not itchy. LAP , esp. the suboccipital & postauricular nodes, is prominent.

Complications are rare, but include arthritis, encephalitis, thrombocytopenia & myocarditis. DDX from other viral infections is unreliable.

The diagnosis should be confirmed serologically if there is any risk of exposure of a non-immune pregnant woman.

There is **no effective antiviral treatment**.

Prevention therefore lies in immunisation



Rash of rubella





Features of Congenital Rubella Syndrome in 376 Children Following Maternal Rubella

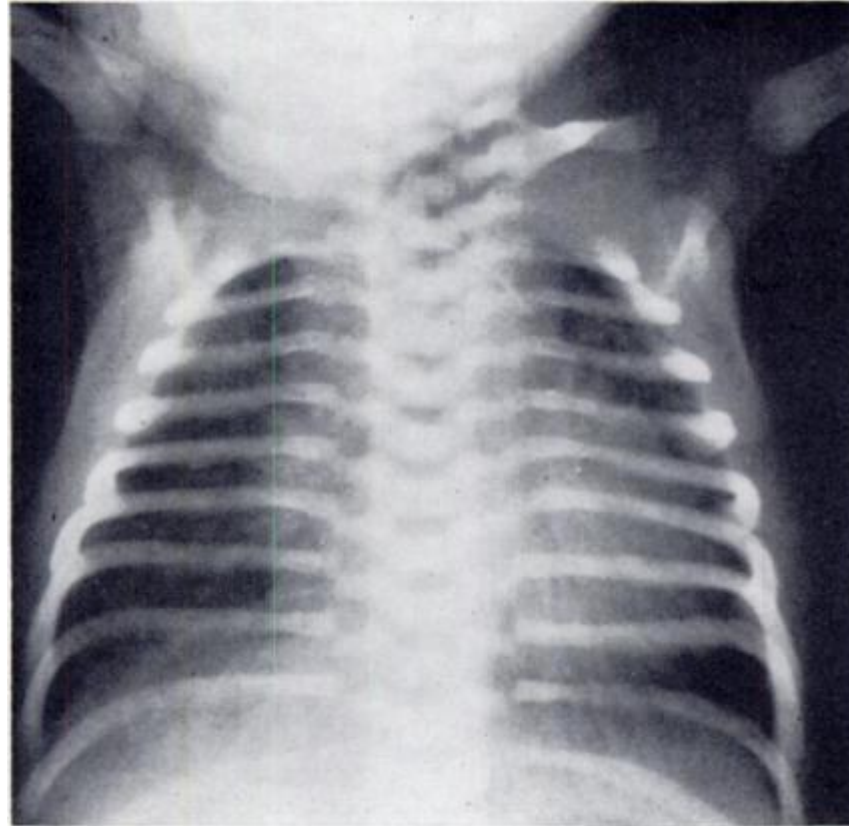
Deafness	67%
Ocular	71%
Cataracts	29%
Retinopathy	39%
Heart disease	48%
Patent ductus arteriosus	78%
Right pulmonary artery stenosis	70%
Left pulmonary artery stenosis	56%
Valvular pulmonic stenosis	40%
Low birthweight	60%
Psychomotor retardation	45%
Neonatal purpura	23%
Death	

Other findings: hepatitis, linear streaking of bone, hazy cornea, congenital glaucoma, delayed growth.

From Cooper LZ, Ziring PR, Ockerse AB, et al: Rubella. Clinical manifestations and management. Am J Dis Child 1969;118:18–29

Bilateral cataracts in infant with congenital rubella syndrome





cardiac enlargement & ↑ pulmonary vasculature, later proved at cardiac catheterization & surgery to be due to PDA. The proximal humerus shows slight longitudinal striation at the metaphyses.

Roseola (Human Herpes Viruses 6 and 7)

Exanthem Subitum

is an acute, self-limited disease of infancy and early childhood. It is characterized by the abrupt onset of high fever, for 1-7 days usu. 4 days which may be accompanied by fussiness. The rash usually lasts 1-3 days but is often described as evanescent and may be visible only for hours, spreading from the trunk to the face and extremities



Roseola infantum. Erythematous, blanching macules & papules (*A*) in an infant who had high fever for 3 days preceding development of the rash. On closer inspection (*B*), some lesions reveal a subtle peripheral halo of vasoconstriction.

(From Paller AS, Mancinin AJ, editors: Hurwitz clinical pediatric dermatology, ed 3, Philadelphia, 2006, Elsevier, p 434.)