

Pediatric infectious diseases and exanthems

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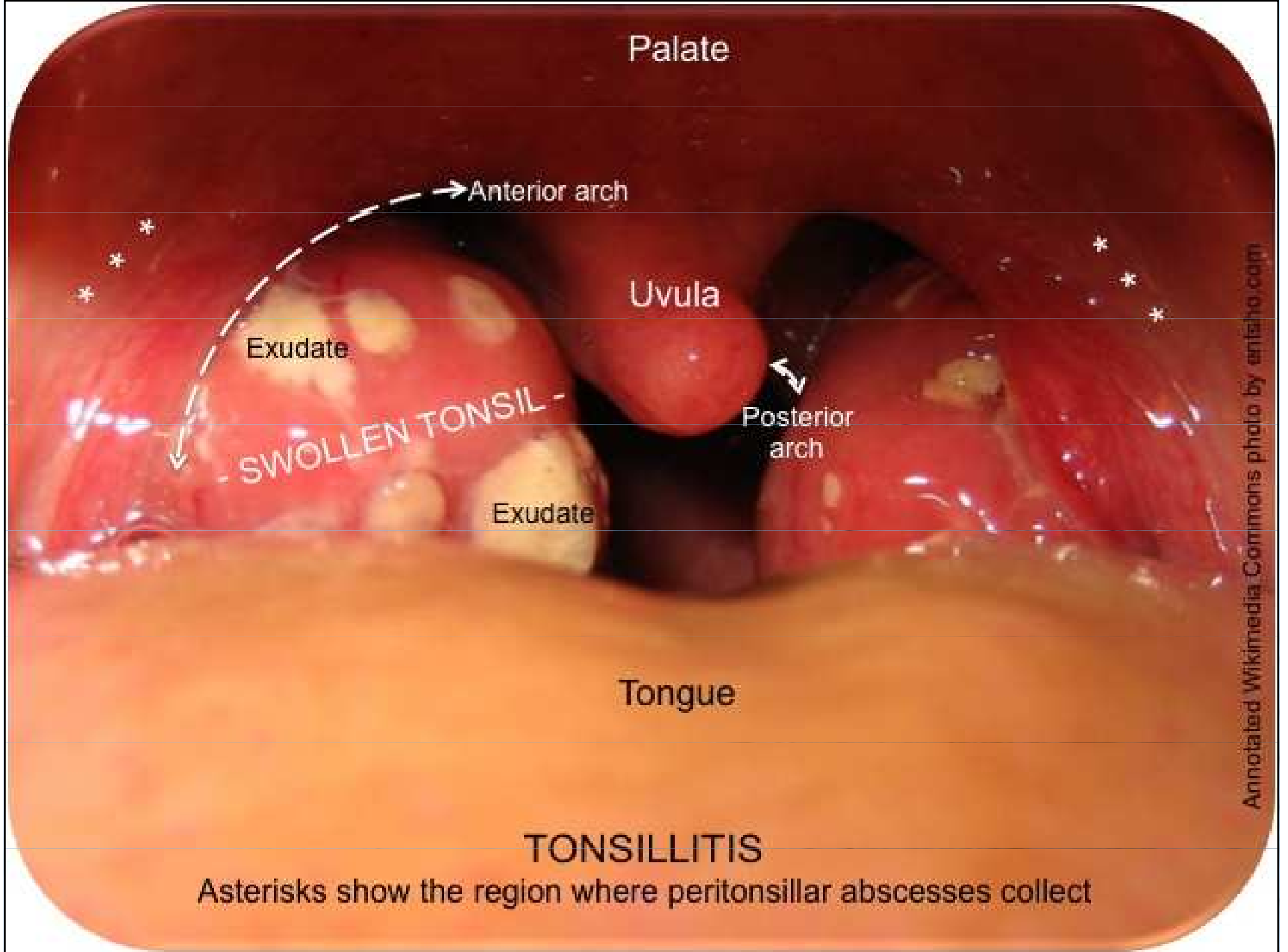
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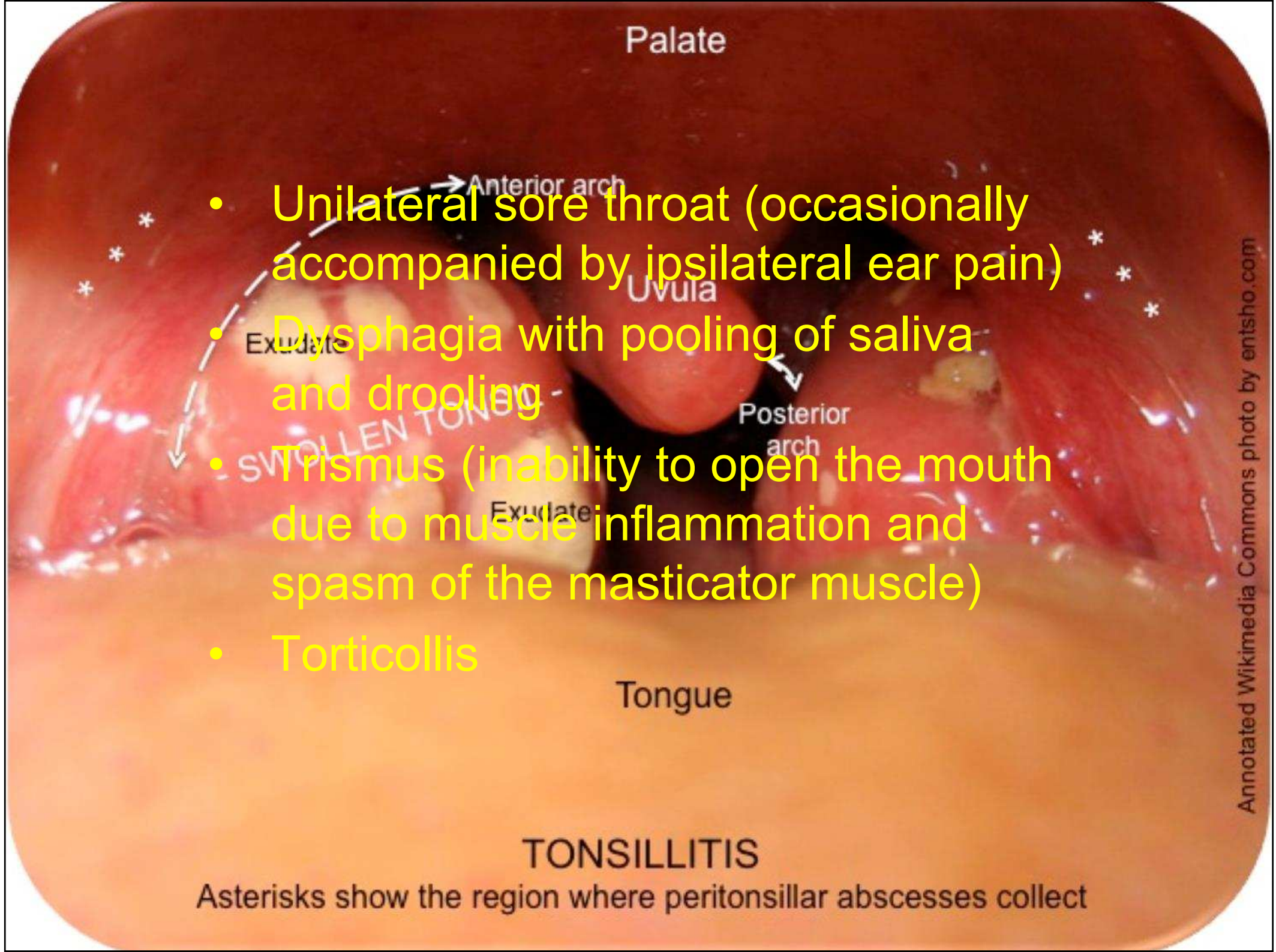


Tonsillitis



- *Streptococcus pyogenes*
- Fever
- Chills
- Sore throat
- Lymphnodes submandibular

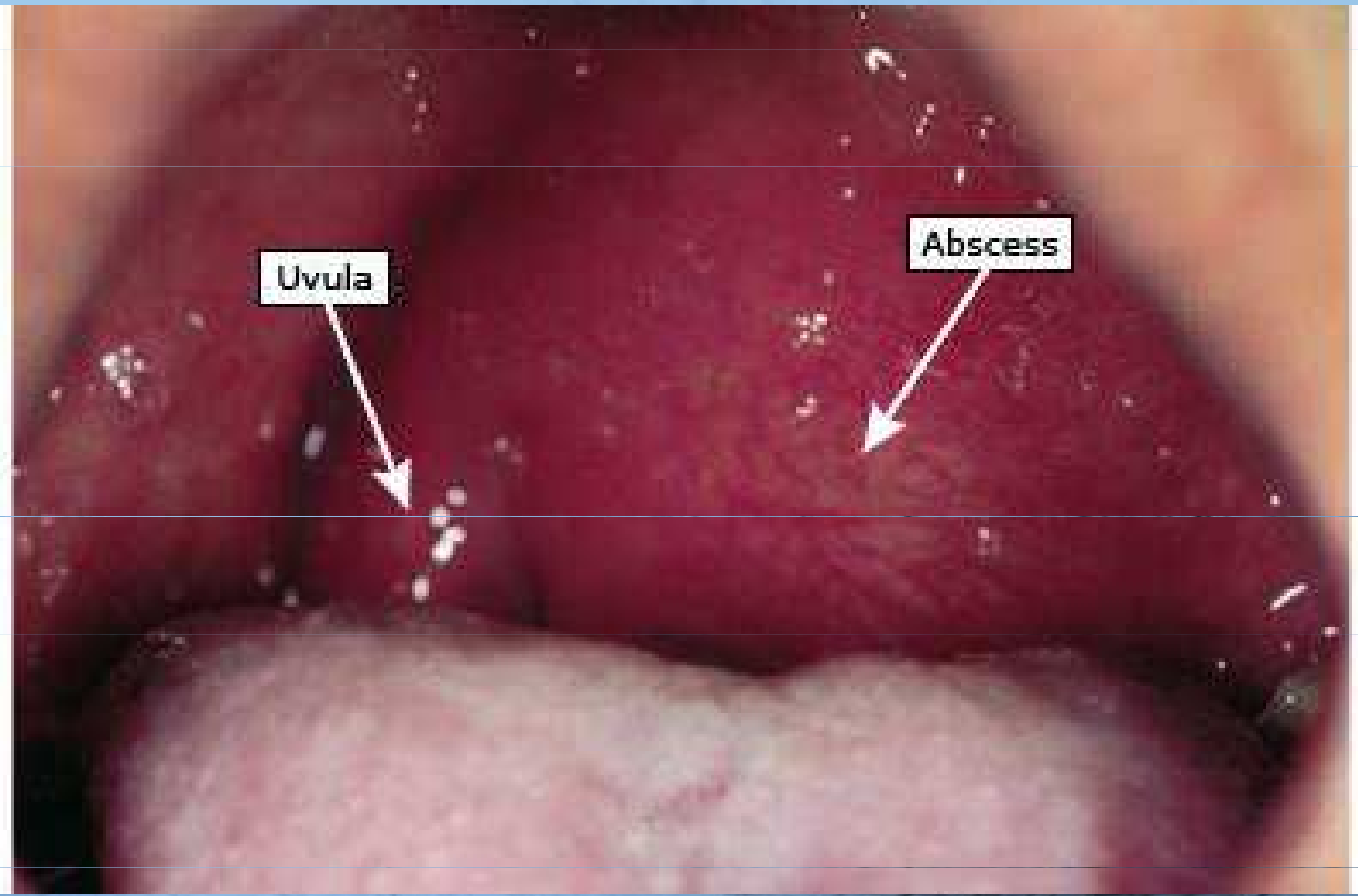




- Unilateral sore throat (occasionally accompanied by ipsilateral ear pain)
- Dysphagia with pooling of saliva and drooling
- Trismus (inability to open the mouth due to muscle inflammation and spasm of the masticator muscle)
- Torticollis

TONSILLITIS

Asterisks show the region where peritonsillar abscesses collect



Uvula

Abscess

Treatment of tonsillitis

PNC!!! - first choice!!!

- high susceptibility~ 100 % for *S. pyogenes*
- bactericidal atb
- compliance (short elimination half-time) – 4x/day
- ~30 % is secreted on oral mucous membranes

CFS I. gen.

- postantibiotic effect, compliance, cross-reactivity rates with PNC of ~ 1 %
- wider spectrum, postantibiotic colitis, resistance?

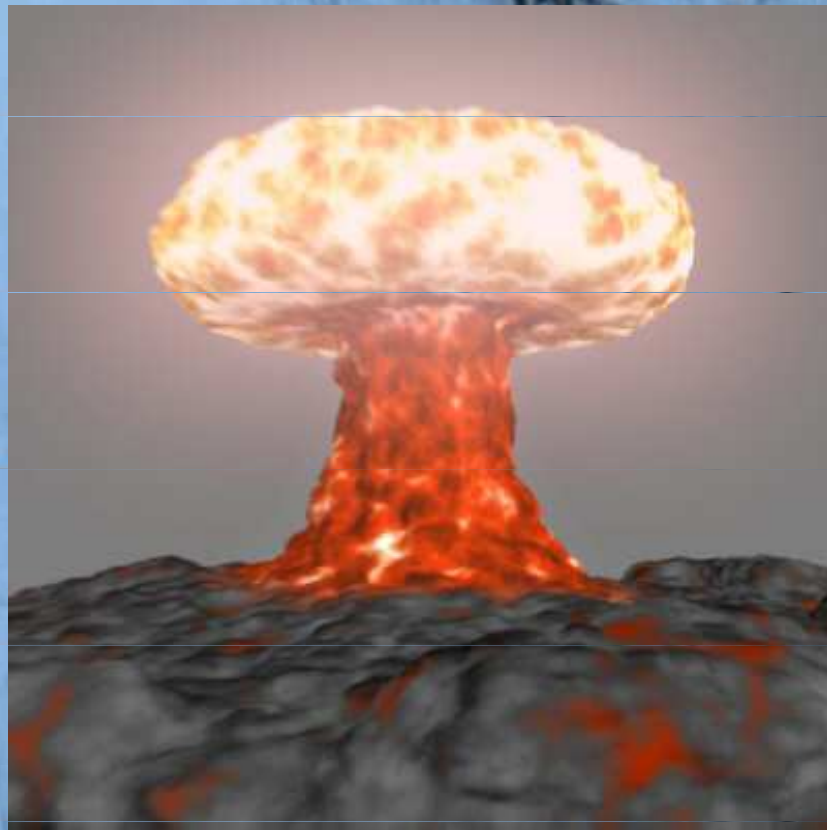
Clindamycin

- ~100 % secretion on mucous membranes
- bacteriostatic effect, resistance 5 % for *S. pyogenes* (2013 CZE), postantibiotic colitis

Macrolides – compliance, ~ 100 % secretion on mucous membranes
bacteriostatic effect, resistance 5 % for *S. pyogenes* (2013 CZE)

AMINOPNC ?

EBV infection
+
AminoPNC



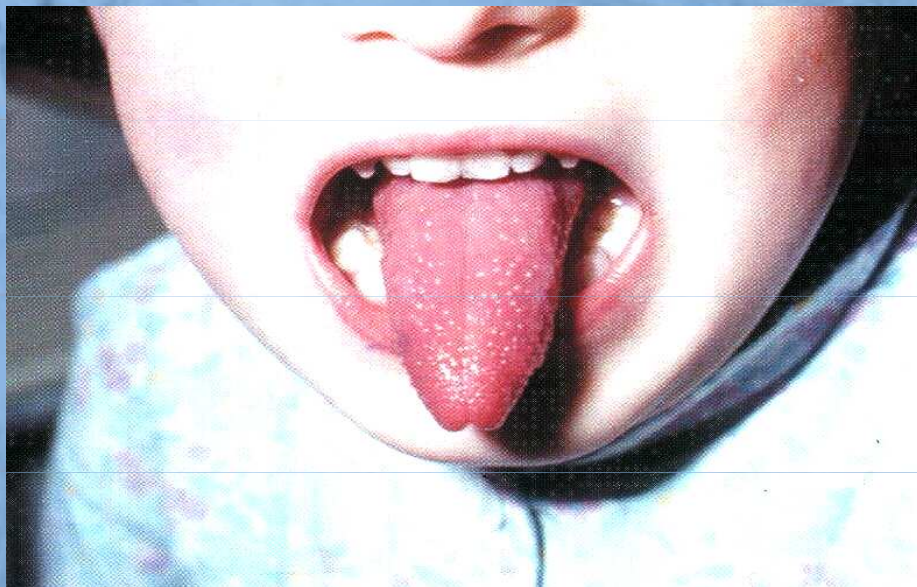
EBV infection + AminoPNC

- Non- IgE-mediated reaction
- Rash appears 5-10 days after initiation of aminopnc treatment
- EBV infection induces unrelated non-EBV heterophile antibodies
- Mechanism: circulating Atb-Ab complexes → complement activation → inflammation
- Not permanent





Scarlet fever

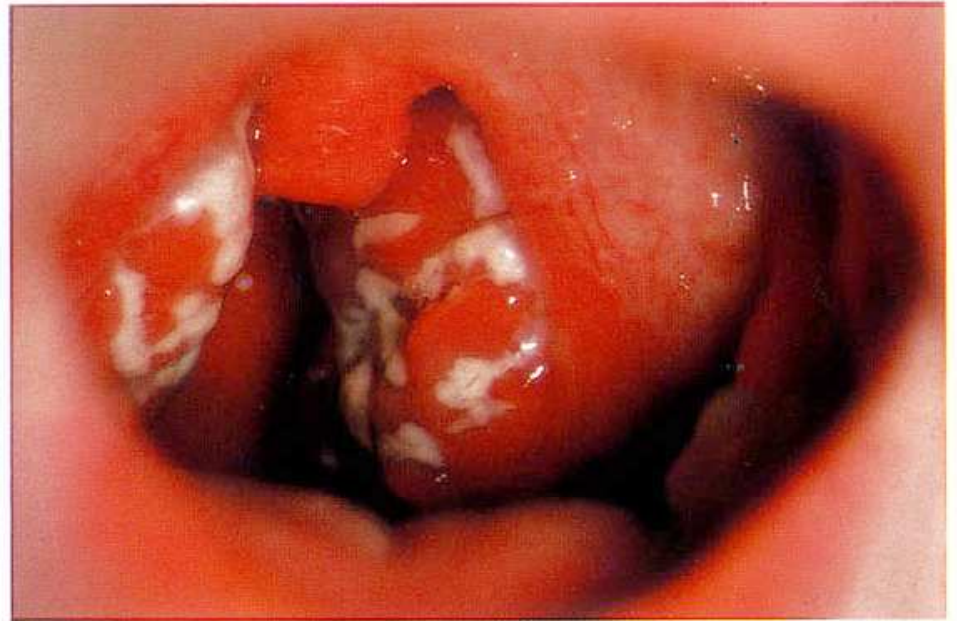


- *S. pyogenes* erythrogenic toxin (A, B, C)
- Scarlet throat
- Strawberry tongue
- Skin desquamation

Scarlet fever

- very small, confluent, fine red papules (trunk and extremities)
- "Goose bumps" (cutis anserina)

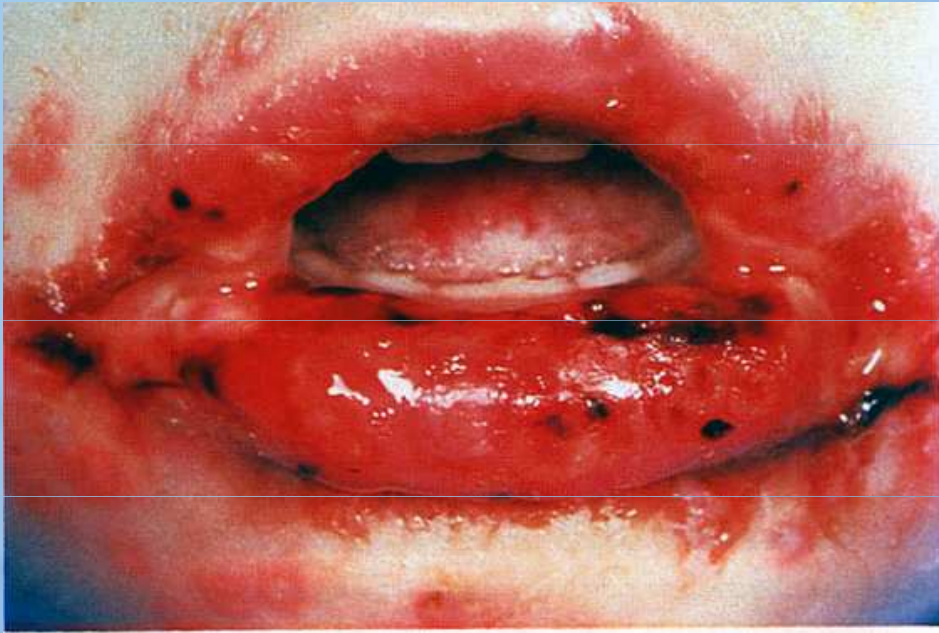




Infectious mononucleosis

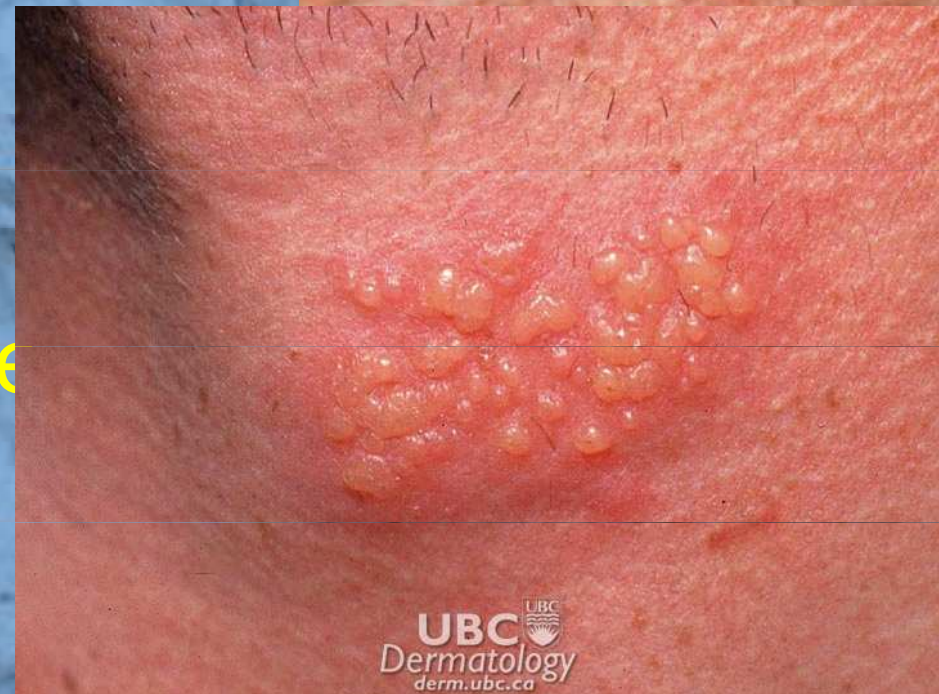


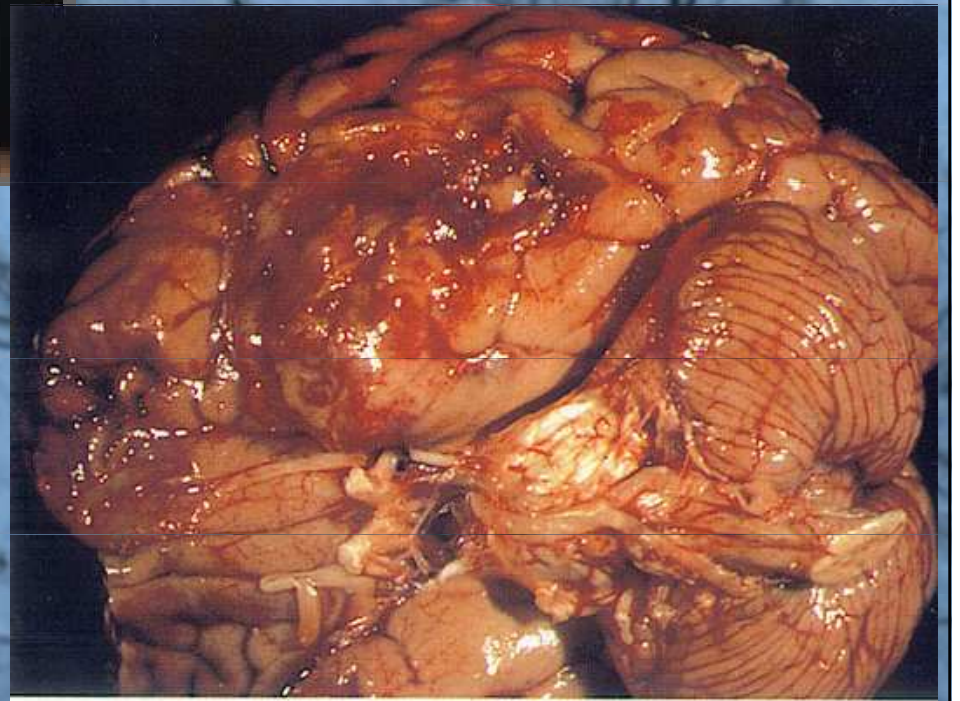
- EBV, CMV
- Herpesviridae
- Mild fever
- Sore throat
- Membranous pharyngitis
- Lymphadenopathy
- Hepatosplenomegaly
- Edema around eyes
- Fatigability
- Prolonged
- Lymphomonocytosis, \uparrow LD
- Hepatopathy
- Symptomatic therapy



Herpes simplex

- HSV 1, 2
- Herpesviridae
- High prevalence
- Persistent in neural ganglion
- Group of vesicles, pustules, crusts
- Around mouth, nose
- Complications

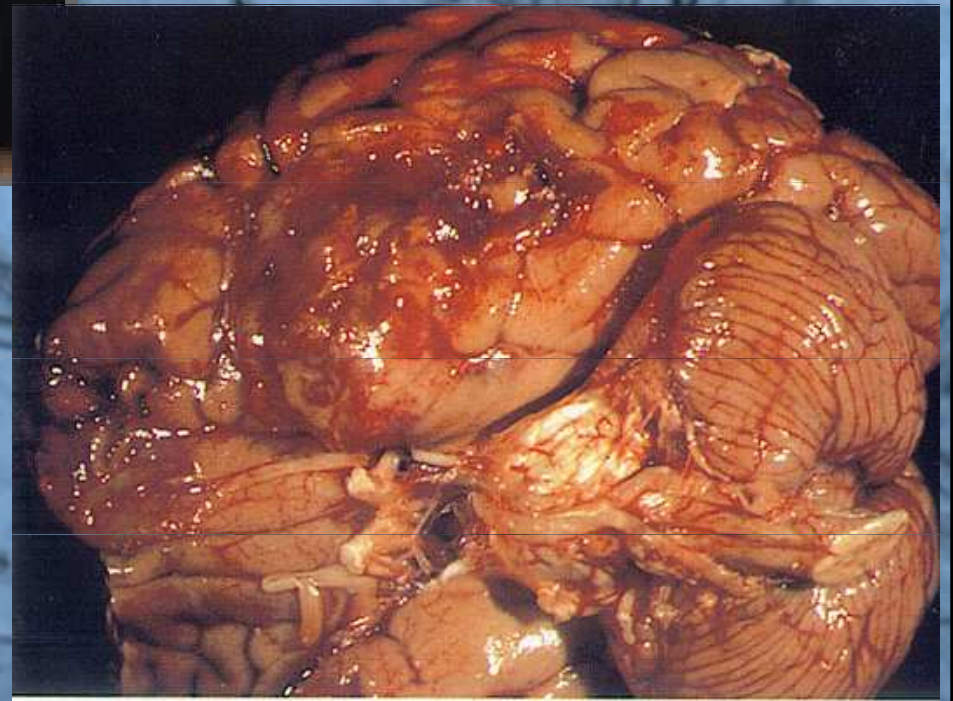




Gingivostomatitis



Herpetic
encephalitis





Varicella (chickenpox)

- **Primary infection of Varicella-zoster virus**
- Herpesviridae
- Very contagious
- 10-21 (28) days of incubation
- Macules-papules-vesicles-pustules-crusts
- Eruption of efflorescence runs in the cycles
- Also in the scalp, mucous membranes





Herpes zoster (shingles)

- **Reactivation** of Varicella-zoster virus from neural ganglion
- Propagation along neural axon
- Restricted to 1 or more dermatoms
- Prodromal pain





Exanthema subitum (sixth disease)



- 90%- HHV 6, 10% HHV 7
- Herpesviridae
- 0-3 year old
- 3 days of high fever
- After the temperature falls, onset of rash (pinkish) appears
- Occipital lymph nodes
- Bulging anterior fontanelle



Hand-foot-mouth disease

- Coxsackie viruses A 16, B1,3 a 5, enterovirus 71
- Picornaviridae
- Spring, autumn
- 2 days fever
- 7 day papules and vesicles





image: Andrew Kerr

Megalerythema infectiosum

- Fifth disease
- Parvovirus B 19
- Parvoviridae
- Distinctive „slapped cheek“ appearance
- Irregular lacy papular-purpuric exanthema
- "gloves and socks syndrome"
- No fever, flu-like symptoms
- Arthritis (older kids, adults)





Facies morbillosa



Measles (Rubeola)



- *Morbillivirus*
(Paramyxoviridae)
- Highly contagious (air droplets for several hours) – **4 days before/after** rash onset
- incubation: 10 days (prodromal), 14 days (rash)

Measles (Rubeola)



2 stages:

- Prodromal: fever, conjunctivitis, runny nose, fatigue, nausea, lymphadenopathy, **Koplik's spots**
- Exanthematic: maculopapular, confluent rash (hypersensitivity of immune system!)

Complications: respiratory tract, CNS

Measles (Rubeola)

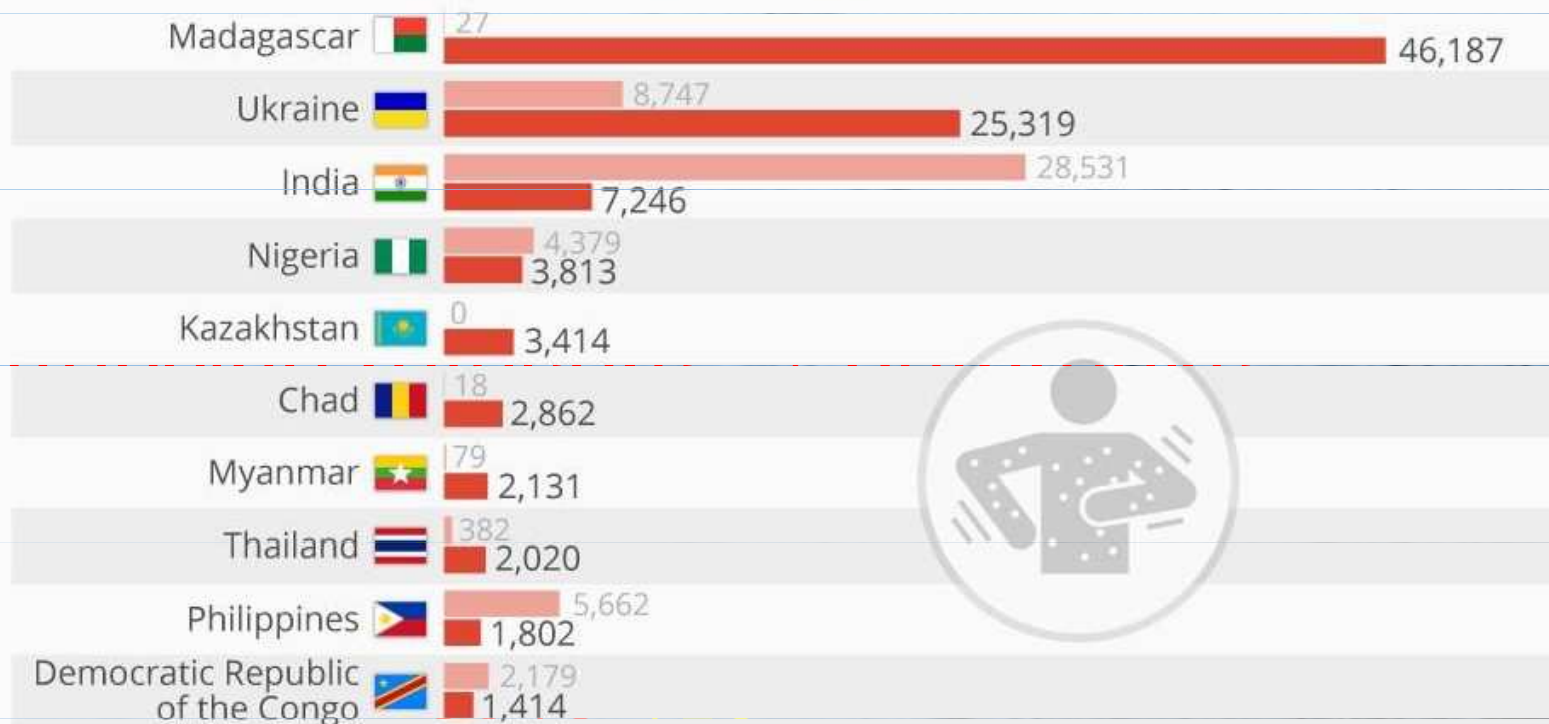
- Facies morbillosa ("unhappy child")
 - conjunctivitis
 - runny nose
 - rash



The Countries With The Most Reported Measles Cases

Countries by number of confirmed measles cases from January to April

2018 2019

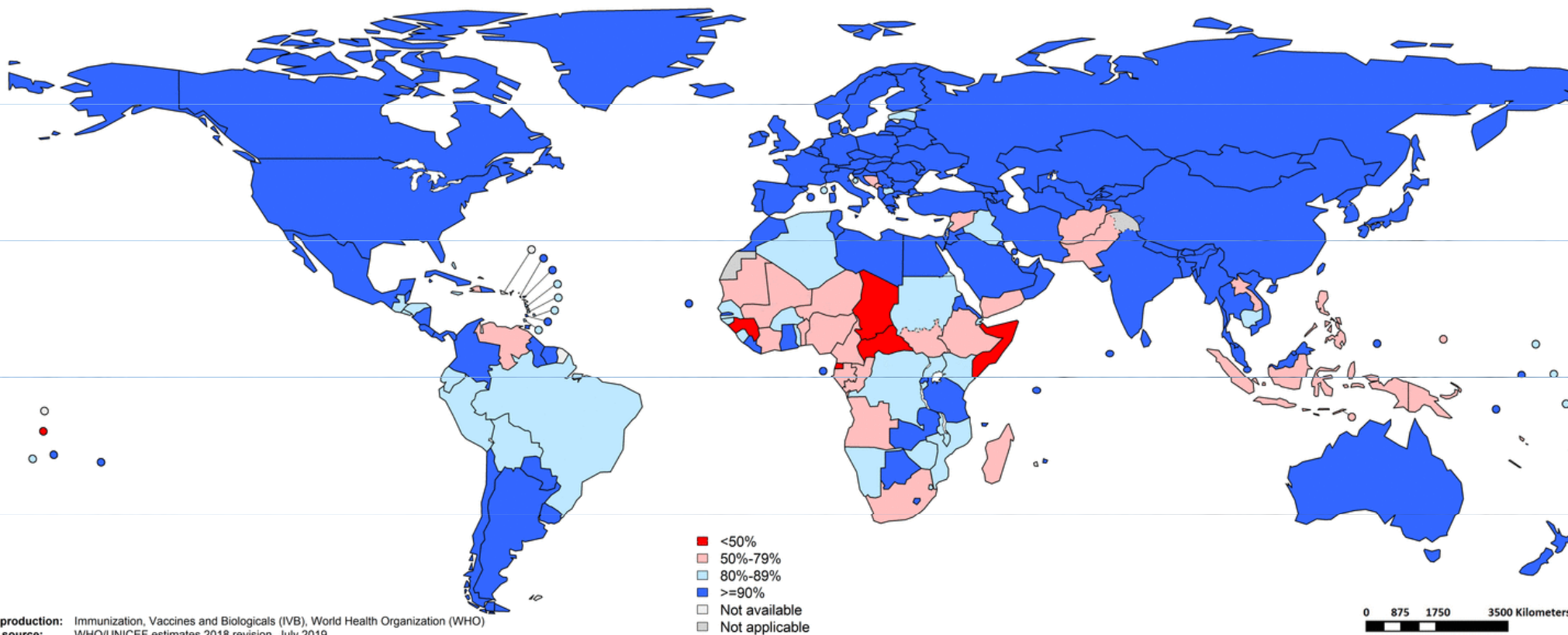


@StatistaCharts Source: World Health Organization

Forbes statista

Immunization coverage with 1st dose of measles containing vaccines

2018



Map production: Immunization, Vaccines and Biologicals (IVB), World Health Organization (WHO)
Data source: WHO/UNICEF estimates 2018 revision, July 2019.
194 WHO Member states.

Disclaimer:

The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area nor of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.
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German measles (Rubella)



- *Rubivirus* (Togaviridae)
- contagious (air-droplets, **transplacental**)
- Incubation: 12 – 23 days
- Prodromal signs +/-
- subfebrile
- swollen lymph nodes
- pink maculopapular rash (no confluent) on the face which spreads to the rest of the body (3 days)
- Forschheimer's sign (petechiae on the soft palate) occurs in 20% of cases

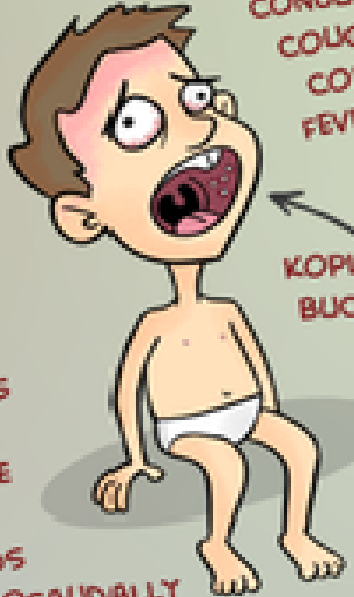
RUBEOLA

ORDINARY MEASLES

CONJUNCTIVITIS
COUGH
CORYZA
FEVER

KOPLIK SPOTS ON
BUCCAL MUCOSA

RASH
APPEARS
AT THE
HAIRLINE
AND
SPREADS
CEPHALOCAUDALLY
OVER 3 DAYS



RUBELLA

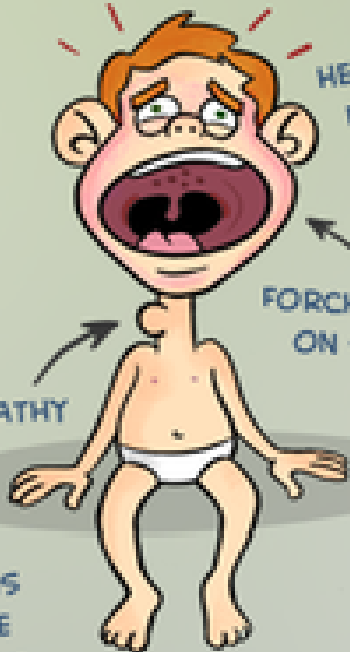
GERMAN MEASLES

HEADACHE
LOW GRADE FEVER
SORE THROAT
CORYZA

FORCHHEIMER SPOTS
ON SOFT PALATE

LYMPHADENOPATHY

RASH BEGINS
ON THE FACE
AND SPREADS
CEPHALOCAUDALLY



ROSEOLA INFANTUM


EXANTHEM SUBITUM

AFFECTS YOUNG CHILDREN
6-36 MONTHS OLD

CAUSED BY
HUMAN HERPES
VIRUS 6

ABRUPT HIGH FEVER

AFTER FEVER SUBSIDES,
A RASH DEVELOPS, STARTING
ON THE NECK AND TRUNK
AND SPREADING TO THE
FACE AND EXTREMITIES





Erythema migrans

- Skin form of lyme disease
- Tick-borne
- Borellia
- Asymptomatic
- Penicilin





Impetigo

- *Staphylococcus aureus*,
Streptococcus pyogenes
- Honey crusted
- Epidermis
- No fever
- Progression
- Transmission by contact
- Usually superinfection





Erysipelas

- *Streptococcus pyogenes*
- Localized skin infection
- Distinct demarcation
- Local edema
- Fever, malaise and other general symptoms
- Propagation along lymph veins – red strips





Staphylococcal scalded skin syndrome

- Exfoliative toxins A, B
(*Staphylococcus aureus*)
- Neonates
- Infected umbilicus
- Vesicles or large bulla with yellow fluid
- Epidermis (stratum granulosum)
- Exfoliation
- Hospital-acquired





IMD

- purulent meningitis
- septicaemia
- mixed form

Menigococcal sepsis

- *Neisseria meningitidis* (A, B, C, Y, W, X)
- Petechial rash on lower extremities
- Rapidly progressive
- Bleeding to skin, mucosa, organs
- DIC
- Death
- Plastic surgery in recovery needed









Thank you for your patience, good
bye