### NURS 821 Advanced Pathophysiology Margaret H. Birney PhD,RN

Lecture 3 Mechanisms and Manifestations of Disease (cont'd) Part 6 Pathophysiology of Selected Skin Disorders

## Chicken pox (Varicella)

- Definition-viral infection causing blistering rash on skin and mucous membranes
- Rash appears on trunk and face, spreading along all membranes
- Rash-1/5" to 2/5", wide, reddish base occur in crops over 2-4 days
- Rash distribution varies
- As blisters itch and break, scabs form, secondary infection can occur

# Varicella (cont'd)

- Symptoms-fever, abdominal pain, vague sick feeling-last 3-5 days, fever of 101-103
- Usually mild but can be deadly in immunocompromised and asthmatics
- May stay dormant and cause shingles later in life



Varicella

# Measles (Rubeola)

- Definition-highly contagious respiratory infection caused by rubeola virus
- Epidemics in springtime prior to vaccine
- Currently, uncommon in U.S., but occasional outbreaks

#### Measles

- Can be serious, even fatal
- Spread by contact w infected fluids from nose, mouth, droplets
- Contagious 1-2 days pre-symptoms to 4 days after rash develops; takes 9-11 days for symptoms post exposure

#### Measles



### Rubeola (cont'd)

- Infants protected first 6-8 months by maternal immunity
- Symptoms-Respiratory-irritability, rhinitis, photophobia, hacking cough, fever (to 105)
  - Symptoms usually disappear w rash except fever (persists 2-3 days)

#### Rubeola

- Koplik's spots-small, red, irregular spots w blue-white centers inside mouth
- Rash
  - Occurs 2-3 days pre-rash
  - Starts on forehead, spreads to feet (3 days); recedes in reverse
  - Large, flat, red, brownish-coalesce; may peel as recedes

#### Measles Complications

- Lasts 10-14 days; return to school 7-10 days post rash, fever
- Complications-Dehydration, secondary infections, pneumonia, bronchiolitis, conjunctivitis, ear infections, croup, myocarditis, hepatitis, encephalitis

#### Herpes Simplex

- Definition- viral infection caused by herpes hominus of the skin, hides in nerves-never leaves
- Activated by stress, illness, sun, menses, etc. Travels down nerves to skin to cause blisters.
- Manifestations-blisters, F, HA lymphadenopathy
- Transmitted even without symptoms by kissing, sexual or close contact
- Two types; these may cross-infect:
  - HSV-1 60% of facial "cold sores"
  - HSV-2 40% of genital sores

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# Herpes Simplex Infectious Diseases with Major **Skin Manifestations** Lyme Disease (CDC, 2000) • Definition-An infectious disease caused by Borrelia burgdorferi transmitted by the bite of • Transmitted by deer ticks in the northeastern and north-central U.S.; by the western blacklegged tick on the Pacific Coast. • Tick size-smaller than common ticks; slightly larger than pinhead. • Ticks feed by inserting mouth parts into host

and feeding for several days.

# Lyme Disease Risk (CDC, 2000)

- Risk increased in northeastern, mid-Atlantic, and upper north-central regions, as well as several counties in northwestern California.
- Typically contracted during residential yard maintenance or recreational activities in wooded areas.

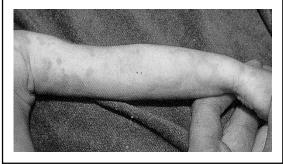
# Lyme Manifestations

- Headache
- Stiff neck
- Fever
- Muscle aches



- Rash-85%-unique, enlarging rash at bite; 15% no noticeable rash
- Complication-arthritislike joint pain and swelling, personality changes, cognitive disorders-memory changes and trouble concentrating

### Lyme Bull's Eye Rash



#### Stages of Lyme: The Great Masquerader

- Post-bite-localized infection
  - Erythema marginans c or w flulike symptoms
  - Bulls eye rash-clear center
  - Sx-malaise, fever, HA, lymphadenopathy

#### Stages of Lyme: The Great Masquerader

- Disseminated infection-wks to 9 mos. postinfection
- Secondary erythema marginans, arthralgia (arthritis wks to yrs later in 60%), meningitis, neuritis, carditis
- Late persistent infection-years later-arthritis, encephalopathy, polyneuritis

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