

Dermatologic Emergencies

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- Petechiae** - punctate lesion secondary to organism invading capillary endothelial cell > inflammation > lose integrity of cap wall > hemorrhage
- above nipple line common due to increase pressure secondary to cough/emesis
 - meningococemia / RMSF until proven otherwise
 - differential: HSP, Kawasaki, SBE, ITP, viral syndrome, RSV, influenza, CVD, leukemia, HUS, EBV, TSS, strep, H. flu., pertussis, typhus, leptospirosis, ehrlichiosis, diss. gonococcal infect.

Bacterial infections

A) Meningococemia - N. meningitidis bacteremia

- Epidem.: transm.= resp. droplets, usually < 2, winter / spring
- Prodrome: malaise, fever, URI, myalgia
- Symptoms: fever, arthralgia, meningismus, shock, DIC
- Rash: macs/pap/pet/purp., distrib. usually trunk & extrem., also palms/soles
- Dx: BC (> 90% +), CSF (1/3 +), stain skin (85% +), low plt.
- Tx: supportive, Ab (PCN, Claforan), tx DIC

B) Rocky Mountain Spotted Fever - Rickettsia rickettsii

- Epidem.: 2/3 <15yo., vector = infected tick (dog tick in east), Apr.- Sept.
: only 2/3 aware of bite, > SE, male > in west, female/child > east
- Hx: gradual or acute onset, incubation 3-14 days (7)
- Prodrome: anorexia, irritab., malaise, chills
- Symptoms: HA, myalgia, photophobia, edema, HSM, neuro., hyponatremia, shock, renal failure
- Rash: appears by day 4 (2-6), first on wrist/ank. > palms/soles > trunk
: eryth. blanching macules > 1-3d. deep red papule > petech./purp. (13% no rash)

RMSF cont.

- Dx: clinical, immunofluorescent studies of skin, IFA (serology), low plt.
- Tx: supportive, tetracycline, chloramphenicol, prevention (constant checks)
- Ehrlichiosis - E. equi (deer tick), < rash, leukopenia, tx: doxy., tetracycline

C) Staph Scalded Skin Syndrome

- ◆ Epidem.: Staph aureus (phage grp. 2) > colonizes nose, conjunct., umbilicus > exfoliative exotoxin > hematogenous > skin
: infants < 2, any season
- ◆ Symptoms: abrupt onset - fever, URI, conjunct., irritability
- ◆ Rash: tender erythroderma, first perioral, neck, intertriginous areas
: widespread 1-2 days > bullae > Nikolsky's sign (skin removed by light stroking)
- cleavage w/in the epidermis (granular layer)
: no mucous memb. involvement, rash heals 5-7 days
- ◆ Dx: clinical, stain/bx of bullae, BC
- ◆ Tx: supportive, cool compresses, oxacillin / dicloxacillin

D) Toxic Shock Syndrome

- ⇒ Epidem.: Staph. Aureus (phage grp. 1), Grp. A Strep, both sexes, majority secondary to high absorbing tampons, ? pathogenesis, other risk: burns, bites, wounds
- ⇒ **Rash**: within 24 hrs. of fever - scarlatinoform erythroderma (nontender), maybe petechial
: desquamation in 1-2 weeks espec. palms & soles
- ⇒ **Hypotension**
- ⇒ **3 or more of following**:
 1. GI - NV
 2. Muscular - myalgia, increase CPK
 3. Renal - increase Cr.
 4. Mucosal membrane - vagina, conjunct. hyperemia, strawberry tongue
 5. Hepatic
 6. CNS - AMS
 7. Thrombocytopenia
- ⇒ Dx: clinical, cultures
- ⇒ Tx: supportive, antistaph. / antistrep Ab
- ⇒ **Strep TSS**: exotoxin A, less severe prodrome, tender rash, scarlatinoform, > focal infection, > BC +, > coagulopathy, > gangrene, > mortality, Tx: Naf / Clindamycin

E) Scarlet Fever

- * Epidem.: Grp. A Strep. > erythrogenic toxin, > school-aged, fall to spring
- * Symptoms: fever, abd. pain, sore throat, rash
- * Findings: cervical LA, exudative pharyngitis, strawberry tongue
- * Rash: Within 24 hrs. of symptoms, neck > trunk & extremities
 - : diffuse erythematous papules (sandpaper) that blanch > desquamation day 4
 - : Pastia's lines - petechiae in intertriginous areas
- * Dx: clinical, culture Tx: PCN

F) Strep / Rheumatic fever

- ⇒ Major criteria: carditis, chorea, polyarthritis, subcut. nodules, & erythema marginatum
- ⇒ Minor criteria: fever, arthralgia, + hx., prolonged PR interval, > WBC, > WSR
- ⇒ **Erythema marginatum**: 10-15% have rash, also in JRA, mainly trunk & extrem.
 - : pink macs/paps fade centrally > nonpruritic rings w/ elevated reticulated or serpiginous borders
 - : spreads rapidly & fades rapidly

G) Cat Scratch Disease

- Epidem.: Bartonella henselae - gr. neg. rickettsia, > males, < 21, transm.. by kittens
 - :hx. contact w/ cat > 90%, evidence of cat scratch in 2/3
 - :incubation 3-30 days (7-12d)
- Rash: red papule @ inoculation site > crusted, vesicular
- Findings: Lymphadenopathy 1-4 weeks later - tender, red, indurated
 - : Parinaud's oculoglandular syndrome - unilat. conjunctivitis w/ preauricular nodes
- Complications: pneumonitis, CNS (enceph. w/ out cells), abscesses, thrombocytopenia
- Dx: clinical, Warthin-Starry silver stain, serum Ab to B. henselae 85%
- Tx: resolve spont. 2-4 months, aspirate nodes, Ab early (gent., bactrim, cipro, rifampin)

H) Lyme Disease

- ◆ Treponemal infection - spirochete *Borrelia burgdorferi*
- ◆ Epidem.: transmitted by Ixodes ticks, entire U.S., may - august, 1/3 recall tick bite
- ◆ Acute / Early phase: malaise, fever, HA, meningitis
 - Erythema migrans** - 75%, 3-32 days after bite, start as red mac/pap > annular >
 - > enlarges rapidly (hot, itchy) > disappears w/in 2 months
 - > thighs, buttocks, groin & axilla
 - multiple rings 1/3
- ◆ Late phase: if untreated complications: Neuro. 15%, Cardiac 5-8%, Rheum. 50%
 1. **Neuro.** - 1 month later, Guillain Barre, peripheral neuropathy, Bell's palsy
 2. **Cardiac** - 3-21 wks. later (1 mo.), AV block (brief)
 3. **Rheum.** - 4-6 wks. later, joint swelling > knee, 10% chronic
- ◆ Dx: clinical, histology, serology (EIA, IFA, IGM)
- ◆ Tx: prevention w/ inspection, Ab shorten duration (tetra., doxy., amoxil)

Exanthematous diseases

A) Varicella - chickenpox

- ◇ Epidem.: < 10, fall to spring, highly contagious, resp. droplets & direct contact
- ◇ Incubation: 8-21 days
- ◇ Prodrome: one day if any
- ◇ Rash: papules > vesicles on eryth. base > umbilicated > crusted (different stages noted)
 - : starts on face > trunk & extrem., pruritic, oral lesions
- ◇ Complications: superinfection (Grp. A Strep), pneumonia, CNS, Reye's
- ◇ Dx: clinical Tx: sympt., acyclovir if immunosuppressed

B) Rubeola (Measles)

- * Epidem.: RNA paramyxovirus, infant to young adult, winter/spring, resp. droplets
- * Incubation: 8-12 days > fever > cough, conjunctivitis, coryza (CCC) w/in 24 hrs.>
 - > **Koplik** spots by day 3 > day 4 rash
- * Rash: erythem. macs/paps become confluent / starts on face > body then fades by day 7-10
- * Complications: pneumonia, encephalitis Dx: clinical, serology Tx: symptomatic

C) Rubella (German measles)

- ⇒ Epidem.: rubella RNA virus, adolesc. - young adult, resp. droplets
- ⇒ Incubation: 14-21 days, minimal prodrome
- ⇒ Rash: rose pink papules on face > body in one day > fade by day 3
- ⇒ Other findings: post. cervical nodes, **Forchheimer's spots** (palatal petechiae)
- ⇒ Complications: encephalitis, arthritis, thrombocytopenia, cong. rubella syndrome
- ⇒ Dx: clinical, serology Tx: symptomatic

D) Erythema infectiosum (Fifth Disease)

- Epidem.: Parvo-virus B-19, > 5-15yo., winter / spring
- Incubation: 6-14 days, minimal prodrome
- Rash: 1) **Slapped-cheek** appearance
 - 2) Erythematous macpap. on trunk / extrem. w/in 2-3 days
 - 3) Reticular pattern secondary to central fading
 - 4) Rash waxes & wanes, usually resolves w/in a month
- Complications: hemolytic anemia, hydrops fetalis
- Dx: clinical, serology Tx: symptomatic

E) Roseola infantum (Sixth disease) (exanthem subitum)

- ◆ Epidem.: herpes virus 6, < 3yo., sporadic, incub. 5-15 days
- ◆ Findings: high fever 3-5 days > rash starts with defervescence
- ◆ Rash: pink mac/pap on trunk > extremities (non-coalescent) > fades in hrs. to 2 days
- ◆ Other: leukopenia by day 3, febrile seizures, usually looks quite well
- ◆ Dx: clinical Tx: symptomatic

F) Mononucleosis

- Epid.: EBV virus (DNA herpes family), 15-25, direct contact (saliva), incub. 30-50d.
- Prodrome: 3-5 days HA, fatigue
- Symptoms: fever, pharyngitis, LA, spleen 50%, liver 20%, supraorb. edema
- Rash: 10-15%, 4-6th day, mac/pap, trunk
 - 80-90% ampicillin rash
- Dx: clin./serology/heme (anemia, thrombocytopenia, atyp. lymphs., incr. LFT's)
- Complications: splenic rupture, Neuro (Bell's palsy, GB) Tx: symptomatic

Hypersensitivity Syndromes

A) Serum Sickness

- * Allergic reaction to drugs (PCN, sulfa, salic.)
- * 7-14 days after Ag > fever, LA , myalgia, arthritis, splenomegaly
- * Rash: 90% urticarial
- * Self-limiting, subsides in 2-3 weeks Tx: supportive

B) Erythema multiforme

- * Hypersensitivity syndrome characterized by skin & mucous membrane involvement
- * Multiple etiologies:
 - Infectious:** Herpes*, Mycoplasma*, Tb, Strep, Mono, yersinia
 - Chemicals:** terpenes, perfumes, nitrobenzene
 - Systemic disease:** CVD, leukemia, lymphoma
 - Antibiotics:** PCN, INH, sulfa, tetracycline
 - Anticonvulsants:** dilantin, tegretol, phenobarbital
 - Other:** rads, foods **Idiopathic:** > 50%
- * Pathogenesis unknown
- * Rash: 1-3 wks. after exposure > symmetric, palms, soles, extensor surfaces
: urticarial, vesicobullae, eryth.paps (target lesions = hallmark)
- * Mucous membrane involvement

1) Erythema multiforme minor

- benign, self-limiting, herpes most common etiology, mucous memb. absent or just one surface one lesion last 1 week - eruptions continue for 2-3 weeks (overall course 1 mo.)
- Treatment: supportive

2) Erythema multiforme major (Stevens-Johnson)

- Mycoplasma & drugs most common etiology, prodrome 1-14d. - high fever

- Extensive bullae, muc. memb. severe (at least 2 surfaces), last 6 weeks, 5-15% mortality
- Eye complications: conjunct., uveitis, corneal ulceration
- Tx: supportive, ? steroids, ophthalmologic consultation

C) Toxic Epidermal Necrolysis

- ⇒ Drug- induced exfoliative disorder, rare in children
- ⇒ Prodrome > tender erythroderma > Nikolsky's sign / bullae
- ⇒ Necrosis @ basal cell layer of epidermis = subepid. separation (unlike SSS)
- ⇒ Mucous membrane involvement
- ⇒ Dx: skin bx Tx: as a burn pt., ? steroids

D) Erythema nodosum

- ◆ Delayed cell-mediated hypersensitivity syndrome
- ◆ > 10, > females, spring / fall
- ◆ Multiple etiologies:
 - Infectious:** Strep, Tb **Noninf.:** sarcoid, UC, crohn's
 - Drugs:** sulfa, dilantin, BCP **Idiopathic**
- ◆ Clinical: fever, arthralgia, red, tender nodules > pretibial
- ◆ Dx: clinical, bx
- ◆ Tx: rest, sympt.

Vasculitic disorders

A) Kawasaki disease

- ∞ ? etiology, diffuse vasculitis, winter / spring, 6mo. - 6yo
- ∞ Clinical criteria: Fever > 5 days and 4 out of 5 of the following:
 - 1) Bilateral conjunctival injection (nonpurulent)
 - 2) Polymorphous exanthem
 - 3) Cervical lymph node > 1.5 cm
 - 4) Changes in extremities: edema, erythema palms/soles, desquamation
 - 5) Changes of oropharynx: fissured lips, strawberry tongue, diffuse erythema (nonexudat.)
- ∞ 3 stages:
 - 1) Acute febrile - 1-14 days, may see diarrhea, aseptic meningitis, liver
 - 2) Subacute - 10-30d. w/ key features, also irritability, peak thrombocytosis
 - 3) Convalescent- resolves 45-60th day, normal WSR
- ∞ Rash: 3-5th day, extremities, no vesicles or bullae
- ∞ Complications: GI - GB dilatation, pancreatitis
 - Cardiac - EKG changes, myocarditis, aneurysm (> male, < 2, wbc>30, WSR > 100 and/or elevated > 5 weeks, fever > 15 days)
- ∞ Dx: clinical, labs, EKG, Echo
- ∞ Tx: aspirin 100 mg/kg/d for 2 wks., IVIG 2 gm/kg over 12hrs.

B) Henoch-Schonlein Purpura

- ◆ Vasculitis with deposition of IgA immune-complexes following a URI
- ◆ Age 2-11, spring / fall, > males
- ◆ Skin, joints, GI, renal
 - **Rash**: crops of mac/pap on buttocks, extensor surfaces > palpable purpura
 - **Rheum**: 2/3 of pts., periarticular involvement, transient
 - **GI**: 75% of pts., abd. pain, melena, intussusception
 - **Renal**: 20-50%, can be up to a month into the disease, 1% ESRD
 - **Other**: edema of scalp, feet/hands, scrotum
- ◆ Dx: normal platelet count, UA, anemia
- ◆ Subsides in 6 weeks, some recurrences
- ◆ Tx: prednisone

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