Overview

• The Derm Evaluation and Lexicon
• Common Conditions in Global Dermatology
• Fungus Among Us
• That’s Just Nasty
• Infestations and Ectoparasites
• A Potpourri of Interesting Diseases
Genital Ulcer Disease (GUD)

• Causes: Syphilis, herpes, chancroid, lymphgranuloma verereum, granuloma inguinale

• USA: Genital Herpes > Syphilis

• Africa, Asia: Chancroid
Syphilis

- *Treponema pallidum*

- “The Great Pox” to distinguish from smallpox

- Clinically develops through several stages
  - Primary – chancre
  - Secondary – rash
  - Latent
  - Tertiary
    - Cardiovascular
    - Neurosyphilis
    - Gummas
Syphilis - Primary
Primary syphilitic chancre

- **Single** painless lesion + bilateral inguinal adenopathy
- Heals spontaneously without treatment
- RPR usually becomes positive several weeks after chancre arises…check the RPR, but may need to biopsy or treat preemptively

Treating primary syphilis:
- Benzathine penicillin is drug of choice
- Tetracycline or doxycycline in PCN allergic patients
- **Test for HIV and other STD’s**
24yo woman with asymptomatic scaly brown circles on face

- Malaise, sore throat, adenopathy, low grade fevers
Secondary Syphilis

- Syphilids within 6-8 weeks of chancre
- Pink, erythematous, brown, coppery macules, papules... with or without scale...
  “great imitator”
Secondary Syphilis

- Face, trunk, & extremities, palms, soles, mucosa
Secondary Syphilis

- Condyloma lata: broad, flat papules with grey, moist, weeping surface in intertriginous areas

- Mucous patches: 5 mm flat, greyish, round erosions covered by a delicate membrane on oral/genital mucosa
Secondary Syphilis

Patchy “moth eaten” or diffuse alopecia
Chancroid

- *Hemophilus ducreyi*
- Multiple, inflamed, **painful**, soft ulcers within a week after sexual encounter
Chancroid

- Suppurative buboes
- Culture ulcer and treat with azithromycin
Chancroid

**Azithromycin** 1 g orally, single dose

**Ceftriaxone** 250 mg IM, single dose

**Erythromycin** base 500 mg po TID x 7 d

**Ciprofloxacin** 500 mg po BID x 3 d*

*Contraindicated in pregnancy and lactation
Granuloma Inguinale (Donovanosis)

- Klebsiella granulomatosi
- Chronic, granulomatous, **painless** nodules
- Beefy-red
Granuloma Inguinale: Manifestations

• Incubation: 50 days
• Firm papule or nodule → ulcer
  – Ulcerogranulomatous: red, non-tender, bleeds readily
  – Verrucous, necrotic, cicatricial

• Genital: 90%; inguinal: 10%

• Diagnosis:
  – Donovan bodies in monocytes of Giemsa stained tissue smear
Granuloma inguinale

• Treatment
  – Doxycycline 100 mg PO BID for at least 3 weeks
  – TMP-SMX one double-strength tablet (800mg/160 mg) PO BID for at least 3 weeks

• Alternates:
  – Azithromycin 1 g PO Qweek for at least 3 weeks
  – Ciprofloxacin 750 mg PO BID for at least 3 weeks
  – Erythromycin base 500 mg PO QID for at least 3 weeks
Lymphogranuloma Venereum

*Chlamydia trachomatis*

Self-limited, *painless*, genital ulcer

Tender inguinal and/or femoral lymphadenopathy (usually unilateral)
  - Groove sign, suppurative, scarring
  - PID

Proctocolitis (fistulas & strictures)

Non-gonococcal urethritis
Lymphogranuloma Venereum

• Diagnosis:
  – Serology
  – DNA tests
  – Urethral swab
Lymphogranuloma Venereum

• **RECOMMENDED:**
  – Doxycycline 100 mg PO BID for 21 days

• **ALTERNATIVE:**
  – Erythromycin base 500 mg PO QID for 21 days

• Aspiration of suppurative buboes may be needed
Nonvenereal Treponemes

- Children
- Related to poverty and lack of health services
- Person to person contact or sharing drinking vessel
- Diagnosis: clinical, dark-field microscopy and serologic testing
- Treatment:
  - Benzathine penicillin intramuscularly
  - If PCN allergic:
    - Tetracycline 500 mg QID x 15 days
    - Children Erythromycin 8 to 10 mg/kg QID x 15 days
MAP 1. GEOGRAPHICAL DISTRIBUTION OF THE ENDEMIC TREPONEMATOSES IN THE EARLY 1990s

CARTE 1. RÉPARTITION GÉOGRAPHIQUE DES TREPONÉMATOSES ENDÉMIQUES AU DÉBUT DES ANNÉES 90

Legend:
- Pinta
- Yaws — Pian
- Endemic syphilis — Syphilis endémique
Yaws

- *T. pallidum pertenue*
- Disabling course
- Skin, bone, joints
- Hot, humid coastal plains
Early & Late Yaws

Mother yaw - primary crusted papule
- Secondary yaws - smaller lesions, clear centrally, coalesce peripherally

Painful osteoperiostitis/polydactylitis (saber shin deformity of tibia)

Late yaws - indolent ulcers with clean cut borders, only 10%

Gangosa - destruction of palate and nasal bone
Bejel (Endemic Syphilis)

• *T. pallidum endemicum*
• Dry, arid areas of Middle East and Africa
• Mouth sore initial presentation, then oral patches, laryngitis, angular cheilitis
• Cutaneous lesions uncommon
• Destructive lesions in long bones (especially legs)
Pinta (Carate)

- Central & South America
- *T. carateum*
- Only skin lesions
- Primary- red papule on legs, face, arms
  - Secondary- smaller, scaling papules initially red turning dark slate blue

- Late Dyschromic Stage- white mottled appearance
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Infestations and Cutaneous Ectoparasites

- Lice
- Scabies
- Tungiasis
- Cutaneous larva migrans
- Myiasis
- Cercarial Dermatitis
Head lice
Pediculosis pubis (crab lice)

- Louse grabs hairs, bites skin, cements nits to hairs
  - Can be on any body hair, including eyelashes

- Look for other STD’s
Pediculosis pubis

- Permethrin cream
- Coat eyelashes with vaseline twice daily
Scabies

- Itching often worse at night
- Close contacts also itchy
- Papules and burrows:
  - Webs, Wrists, Waist and Willie
Scabies
Scabies

- Scrape to see:
  - Mite
  - Eggs
  - Poop

Sarcoptes scabiei

Treatments – permethrin, lindane, benzyl benzoate, crotamiton, malathion, topical sulfur, ivermectin
Crusted scabies

• Wear gloves!
21yo soldier returns from military exercise in Guyana

Painful lesions on foot
Tungiasis (Sand Flea)

- Tunga penetrans

- Female burrows into skin (usually foot)

- Progression of painful red spot to papule to nodule with black dot (anal/genital area of flea) to pearl-like papule (with eggs) to black keratotic crust
Gravid female burrows into flesh, leaving uterine pore open

Tungiasis
Tungiasis (Sand Flea)
Life cycle of 2-4 mm flea is 5-6 weeks

Infestation self-limited if not reinfected

Rare osteomyelitis/ gangrene

Sub-Saharan, Caribbean, Central and South America

Surgical removal of fleas
  - Topical ivermectin or thiabendazole
  - Treat with antibiotics if secondarily infected
28yo Navy physician – at Flight Surgeon Course in Pensacola
Cutaneous Larva Migrans

• Pruritic, serpiginous lesion migrates 2-4 cm /day on feet or buttocks
Cutaneous Larva Migrans

• Dog or cat hookworm larvae
  – Cannot penetrate fully and usually die within 2 months

• Beach; sandboxes

• Course: self-limited 1-6 mos

• Treatment:
  – Topical thiabendazole
  – Single dose of oral ivermectin
Differential of “migrating” lesions

• Cutaneous larva migrans
• Gnathostomiasis
• Loiiasis
• Strongyloidiasis (larva currens)
Myiasis

- Infestation of human tissue by fly larva
- Painful, boil-like lesion with central punctum (respiratory pore)
- Exposed skin
**Dermatobia hominis**

- Human Botfly
- Female glues eggs to mosquito, stablefly, or tick

**New World Myiasis**
Old World Myiasis

- Tumbu fly (*Cordylobia anthropophaga*)
- Fly deposits eggs on ground or clothing
- Young maggots penetrate skin
Cercarial Dermatitis (Swimmer’s itch)

- Transient pruritic papular or urticarial eruption on exposed skin.
- Resolves in 7-10 days after fresh water snail exposures (schistosomal larvae penetrate the skin).
Seabather’s eruption

Pruritic, papular eruption (can last 1-2 weeks)

Occurs in tropics (begins a few hours after exposure)
- Seasonal, typically May to August

Caused by hypersensitivity to the larval forms of thimble jellyfish and certain sea anemone
- Larvae get caught in water permeable clothing
- Rash typically in bathing suit pattern

Treatment is symptomatic
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A potpourri of interesting diseases (as time allows)…
Leprosy (Hansen’s Disease)

Chronic disease caused by *Mycobacterium leprae*

Peripheral nerve (sensory loss), skin, and upper airway mucosal involvement

Asia, Oceania, Caribbean, the Americas, S. Europe, Australia, Africa

Incubation period 3 mos to 40 years
- 95% of population is NOT susceptible
- Need prolonged contact with an untreated patient

Treatment: Rifampin + Dapsone + Clofazimine
Sensory              Motor              Auto-amputation

Claw-hand deformity

Leprosy
*Mycobacterium leprae*

Lepromatous leprosy
Lepromatous Leprosy

• Nodular infiltrations can destroy underlying structures saddle nose deformity, leonine facies

• Sensory loss over distal limbs
Borderline Leprosy

- Numerous lesions, annular
- Symmetrical nerve involvement appears later
Tuberculoid leprosy

- Hypopigmented saucer shaped single lesion (max 2-3)
- Numbness, pain, tingling, muscle weakness
38 yo Thai female with fever, retro-orbital eye pain, diffuse severe myalgias

DENGUE FEVER
### Assay Report by the Analyze

**ID:** 108211  
**Time:** 05-23-2011 09:40

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<td>Mid#</td>
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<td>Gran#</td>
<td>0.6 x 10³/uL</td>
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<td>RBC</td>
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3 yo Thai female with high fevers and severe falciparum malaria, improved on IV artesunate but still spiking fevers to 103°F on day 2
Varicella
Variola (Smallpox)
### Variola vs. Varicella

<table>
<thead>
<tr>
<th></th>
<th>Variola</th>
<th>Varicella</th>
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<tbody>
<tr>
<td><strong>Incubation</strong></td>
<td>10-14 days</td>
<td>14-21 days</td>
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<td><strong>Prodrome</strong></td>
<td>Severe</td>
<td>Minimal</td>
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<tr>
<td><strong>Distribution</strong></td>
<td>Centrifugal, Convex</td>
<td>Centripetal, Concave</td>
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<tr>
<td><strong>Evolution</strong></td>
<td>Synchronous</td>
<td>Asynchronous</td>
</tr>
<tr>
<td><strong>Crust forms</strong></td>
<td>10-14 days</td>
<td>4-7 days</td>
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<tr>
<td><strong>Crust detaches</strong></td>
<td>14-28 days</td>
<td>&lt;14 days</td>
</tr>
<tr>
<td><strong>Infective until</strong></td>
<td>Eschars detach</td>
<td>Lesions crust</td>
</tr>
</tbody>
</table>
Cutaneous Anthrax

Clinical Progression

- Painless, pruritic papule
- Juicy papule
- Bulla (48 hours)
- Bulla ruptures/early ulcer
- Eschar with raised border
- ‘Jet black’ eschar
- Minimal scarring
• Ecthyma contagiosum
• Acquired from direct contact with lambs, calves, or goats
• Spontaneous resolution
Measles (Rubeola)

- Rarely seen among vaccinated
- Major killer in developing world
- Spread by respiratory route
- Incubation 9-12 days
- Immunization highly effective
Measles (Rubeola)

- Prodrome: high fever, malaise, URI
- Rash begins in hairline of neck/face, then moves down
- Exudative conjunctivitis
- Photophobia
- Severe bark-like cough
- Koplik’s spots on buccal mucosa

- Classic presentation: Cough, coryza, conjunctivitis, rash, & high fever
  - These children look sick

Supportive treatment
Skin lesions in returned travellers (n=4742)

- Cut. larva migrans 9.8%
- Insect bite 8.2%
- Skin abscess 7.7%
- Infected insect bite 6.8%
- Allergic rash 5.5%
- Rash, Unknown 5.5%
- Dog bite 4.3%
- Superficial fungal 4.0%
- Dengue 3.4%
- Leishmaniasis 3.3%
- Myiasis 2.7%
- Spotted fever 1.5%
- Scabies 1.5%
Questions?