INFLAMMATORY SKIN DISEASE

Desquamation
ERYTHEMA MULTIFORME

- Aka erythema multiforme minor
- Characterized by target-shaped lesions
- Start as round, red, macules and papules. Evolve to targetoid over several days. Maybe central vesicle or purpura. Associated itch, burning, or pain.
May involve palms and soles
May involve oral mucosa (vesicles and erosions).
Most common cause is herpes simplex. Also mycoplasma and meds (PCN, sulfa, seizure)
Tx supportive. Local wound care for erosions. Suppressive therapy for recurrent lesions in association with HSV.
STEVENS-JOHNSON SYNDROME (SJS) AND TOXIC EPIDERMAL NECROLYSIS (TEN)

- Aka erythema multiforme major
- Spectrum of disease (SJS <10% BSA and TEN >30% BSA)
- **Severe, life-threatening rxn, usually to medication**
- Erythematous papules, vesicles, purpura, and targetoid lesions. Skin tender. Erosions, vesicles, and bullae of oral, ocular, genital, and perianal mucosa.
- **Systemic sx of fever, HA, cough, arthritis**
- **Nikolsky’s sign: extension of blisters with pressure**
- **Treatment: HOSPITALIZE. d/c offending drug. Wound care. Systemic steroids, narcotic pain relief, IVIG.**
BULLOUS PEMPHIGOID

- Autoimmune blistering disease
- Erythema, then urticarial plaques, and finally large, tense, suprabasal bullae on normal or erythematous skin
- Symmetric, Itchy, systemic sx rare
- M=F, mostly >60 YO, extremely rare in children
- Confirm dx with punch biopsy x2. One biopsy for normal histology and other for direct immunofluorescence (DIF).
- Tx: Topical steroids, oral prednisone, TCN and niacinamide, immunosuppressant (methotrexate, azathioprine, cyclophosphamide).
INFECTIONOUS

Viral
CONDYLOMA ACUMINATUM

- Aka genital warts, anogenital warts
- Sexually transmitted. Contagious.
- HPV subtype 16 & 18 are highest risk
- Individual cell-mediated immunity responsible for severity and duration.
- Moist, soft, papillary to cauliflower-like lesions on genital, perianal, and surrounding skin.
Treatment removes lesions, but no cure. Tx with topicals (podophyllin, salicylic acid, imiquimod) & cryotherapy.

Recommend screening of sexual partners, Pap smears, condoms

Several HPV vaccines are available
VERRUCA VULGARIS

- Aka warts, common warts, verruca
- Flesh-colored, pink, or hyperkeratotic papules. **Punctate black dots within lesions represent thrombosed capillaries.** Most common on hands, feet, knees, elbows.
- More common and numerous in immunosuppressed.
VERRUCA VULGARIS

- Tx: In kids, two thirds of warts spontaneously resolve without treatment within 2 years. Topicals (podophyllin, salicylic acid, trichloracetic acid), immunotherapy (candida antigen injection), cryotherapy, CO2 laser
MOLLUSCUM CONTAGIOSUM

- Most common in children
- **Cause:** A pox virus
- Very contagious.
- In children, usually spread by close contact/play and in adolescents and adults usually sexually transmitted
- Usually, multiple pink to flesh-colored, dome-shaped, 2-5 mm papules with central umbilication
- **Treatment:** Liquid nitrogen cryotherapy, curettage
HSV-1 mostly orolabial and HSV-2 mostly genital

Grouped vesicles on an erythematous base, then erosions, and finally crust. Resolves in 2-6 weeks. Prodrome may precede eruption.

Virus latent in dorsal root ganglion. Tends to recur. Virus sheds and can transmit when asymptomatic.
Can occur anywhere on body: herpes gladiatorum in wrestlers. herpetic whitlow on fingertip.

Dx: clinical, Tzanck smear shows multinucleated giant cells, PCR, viral culture

Treatment: none, topical antivirals, oral antivirals (most effective if within 48h of sx or as suppressive regimen)
VARICELLA-ZOSTER VIRUS

- Aka shingles, zoster
- Reactivation of varicella zoster virus (chicken pox).
- May be preceded by localized sx. May have systemic sx (malaise, HA, photophobia, fever, and/or LAD).
- Grouped vesicles on erythematous base, unilaterally in dermatome. Then evolve similar to HSV lesions.
**VARICELLA-ZOSTER VIRUS**

- Hutchinson’s sign is vesicles on tip/side of nose and raises concern for ophthalmic zoster. **EMERGENCY!**
- Postherpetic neuralgia (PHN) is defined as pain that persists >30 days after cutaneous healing.
- Treatment: Oral antivirals if within 24-48h, supportive, oral steroids may reduce pain.
- Shingles vaccine available
First disease: rubeola (measles), maculopapular rash with Koplik spots (white papules with red base on buccal mucosa)

Second disease: scarlet fever, sandpaper rash, strawberry tongue, Pastia’s lines (petechiae in skin folds) NOT VIRAL

Third disease: rubella (German measles), maculopapular rash

Fifth disease: erythema infectiosum, Parvovirus B19, slapped cheek/reticulated rash on trunk

Sixth disease: erythema subitum (roseola infantum) fever resolves before rash appears

Hand-foot-and-mouth disease: Coxsackie A16, vesicles with red halos on palms/soles and oral erosions

Chickenpox: “Dew drop on a rose petal”
**IMPETIGO**

- Most common by Staph aureus, Strep pyogenes, or both
- Most common in kids. Very contagious.
- Vesicles or pustules on an erythematous base rupture leaving a *honey-colored* crust
- Ecthyma: Untreated impetigo may result in a deep infection with dermal involvement. Spread by picking/rubbing. Most common on legs.
- Treatment: topical antibiotics (mupirocin), oral antibiotics, especially with widespread, bullous impetigo, or ecthyma
CELLULITIS

- Bacterial infection of dermis and subcutaneous tissue
- Erythematous, tender, edematous, warmth, poorly defined plaques. May have fever or lymphadenopathy
- Can occur in normal skin or with portal of entry (wound)
- Most common cause: Staph aureus or Group A Strep
- Increase in immunosuppressed, DM, HIV, CA on chemo
- Perianal cellulitis occurs in kids and mimics candida
- Treatment: Culture if possible, oral abx, IV abx, hospitalization may be necessary
**ERYSIPELAS**

- Superficial cellulitis, extends via lymphatics ("streaking")
- Most common in adults, most common on the face and legs
- Acute onset with rapidly enlarging red, painful, firm, hot, well-circumscribed plaque.
- May have associated fever, chills, myalgia, and malaise
Most common pathogen is Group A Strep
Repeat infections may occur with impaired lymphatic drainage
Treatment: Oral PCN V is drug of choice. Hospitalization with IV abx for severe cases
**ERYTHRASMA**

- Pathogen is *Corynebacterium minutissimum*
- Erythematous and brown patches, sometimes with scale in axilla, inframammary folds, groin, gluteal cleft and webspaces of feet.
- May have associated itching or burning
- More common in warm climates and in DM
- Woods lamp exam demonstrates a coral red/pink fluorescence
- Treatment: Topical erythromycin or clindamycin, oral erythromycin
CANDIDA

- Increased heat and moisture promote growth of yeast.
- Thrush: white plaques in mouth, scrape off revealing a red base. Painful red palate in denture wearers.
- Perleche (angular cheilitis): erythema, scale, fissures at corners of mouth
- Balanitis: red papules, pustules, and erosions of glans penis and foreskin.
Candidal diaper dermatitis: red, scaly plaques on groin and/or buttocks with sparing of creases

Intertrigo: Beefy red, moist, shiny plaques with satellite papules and pustules in skin folds.

Treatment: topical antifungal/yeast or oral
**Tinea Versicolor**

- Caused by *Malassezia furfur*, aka *pityrosporum orbiculare*
- White, brown, or pink coalescing macules and patches with fine scale on back, chest, abdomen, neck, shoulders, and upper arms. +/- itch
- More common in summer and with humidity
TINEA VERSICOLOR

- **Dx:** KOH prep shows short hyphae and spores ("spaghetti and meatballs")
- Abnormal pigmentation may take months to resolve.
- **Treatment:** topical (selenium sulfide, ketoconazole) and oral (ketoconazole, fluconazole)
Tinea (Dermatophytosis)

- Tinea cruris: (jock itch) groin, spares scrotum
- Tinea pedis: (athlete’s foot) Interdigital or mocassin
- Tinea manuum: hands, red & scale (mimics eczema)
- Tinea capitis: on scalp, hair loss, mostly in kids
- Tinea barbae: beard area
- Tinea corporis: (ring worm) areas not listed above
- Tinea incognito: infection that has lost characteristic features s/p tx with topical steroid
- Dx: KOH prep
- Tx: Topical and oral antifungals
INFESTATIONS

Bites and Infestations
**Pediculosis (Lice)**

- **Pediculosis capitis** (head lice): *Pediculus humanus var. capitis*. More common in kids. Transmit by close contact, shared hats, & hair care articles. Nits are eggs cemented to hair shafts. Itchy. Treat close contacts/family. Tx with topical permethrin, lindane, or malathion. Several alternative treatments exist (petrolatum, etc).

- **Pediculosis corporis** (body lice): *Pediculus humanus var. corporis*. Lice and nits in seams of clothing. On skin only to feed. Very itchy. Transmit by infected clothing/bedding. TREAT CLOTHING. Pyrethrum sprayed onto clothing

- **Pediculosis pubis** (pubic lice): *Phthirus pubis* (smallest lice). Close contact or sexual transmission. Live in pubic hair, but also other hair. Very itchy. *Macula ceruleae* (blue macule). Treat all sexual contacts. Topicals same as head lice.
Caused by Sarcoptes scabiei var. hominis
Parasitic infestation of the skin with intense pruritus
Papules, vesicles, and burrows in webspaces.
Crusted scabies aka Norwegian scabies (1000s of mites) seen in pt with dementia, Downs, or immunosuppressed.
Dx: mineral oil prep to observe adult, egg, and feces
Tx: education, treat all close contacts, clothing, linens. Topicals (same meds as lice) and oral ivermectin. Topical steroids for pruritus.
Black Widow (Lactrodectus mactans): Spider black with red hourglass shape on abdomen. Initial bite has mild pain. Abdominal pain most common complaint. Neurotoxin causes muscle pain, spasms, rigidity, and n/v. Tx: ice, pain medication, muscle relaxants. Antivenin IM or IV available for acute severe sx.

Brown Recluse (Loxosceles reclusa): Spider brown and yellow with dark brown violin-shaped marking on back. Toxin causes local tissue necrosis. Can lead to ulceration. Pain, burning, and stinging 6-8 hours after bite. Systemic sx uncommon, but include fever, chills, n/v, arthralgia, and myalgia. Tx: ice, local wound care, dapsone can prevent severe necrosis.
DISEASE OF HAIR AND NAILS
Alopecia Areata

- Round or oval patches of nonscarring hair loss, mostly on scalp, but can be anywhere. “Exclamation point” hairs seen.
- May involve entire scalp (alopecia totalis) or body (alopecia universalis).
- May have associated nail pitting
- Skin biopsy: Increased # of lymphocytes seen around bulb (autoimmune)
- Tx: Topical steroids, intralesional steroids, topical immunotherapy, phototherapy, systemic steroids if severe
Male pattern hair loss: bitemporal recession, recession of frontal hairline, and thinning of vertex.

Female pattern hair loss: later onset and less progressive. Thinning of hair on crown with sparing of frontal hairline. Females can also have male pattern hair loss.

Minoxidil (Rogaine): causes vascular dilation, solution or foam applied BID,

Finasteride (Propecia): 5-alpha reductase inhibitor blocks conversion of testosterone to DHT, approved in men only (cat X)

Hair transplantation: punch biopsy plugs from occipital scalp

Wigs, hairpieces (toupees), “the comb over”, no treatment
Inflammation and infection of the nail fold(s)

**Acute paronychia:** Caused by Staph aureus, Sx: pain, erythema, and edema. Abscess may form. Tx with I&D, oral antibiotics, soaks

**Chronic paronychia:** Caused by Candida species. Usually involves many or all fingernails. Sx: erythema, tenderness, and swelling. Common in diabetics, people who perform “wet work” such as wait staff, bartenders, and food handlers. Also seen in healthcare providers (dentists, surgeons, etc). Tx with antifungal solution or oral antifungals.
Onychomycosis

- aka tinea unguium
- Trauma from tight fitting footwear and longstanding untreated tinea pedis predispose
- This condition causes social embarrassment. Indications for treatment include pain, frequent ingrown nails (especially in high risk populations such as DM), secondary bacterial infection, functional limitation, and appearance.
- Dx: KOH prep, fungal culture, PAS staining
- Tx: topical antifungals (ciclopirox), oral antifungals (terbinafine, itraconazole, griseofulvin)
MISCELLANEOUS SKIN CONDITIONS
Depigmented patches which frequently occur on face, hands, feet, and genitals. May be symmetric or asymmetric. May be dermatomal or segmental.

- Autoimmune, association with other autoimmune dz
- Hairs within depigmented patches may become hypopigmented
- More common in children. 50% have onset prior to 20 YO
- Tx: poor response in many. Children more likely to improve. Tx with topical steroids or phototherapy. Cosmetic camouflage.
Melasma

- aka chloasma, “mask of pregnancy”
- Mottled brown, blotchy, symmetric patches on forehead, malar cheeks, upper lip, and chin
- More common in darker skin types
- Occurs in 2^{nd}-3^{rd} trimester of pregnancy and in some women taking OCPs. More prevalent after sun exposure.
- Tx: discontinue OCP, strict sun avoidance and use of sunscreen, topical medications include tretinoin, hydroquinone, azelaic acid, chemical peels
ACANTHOSIS NIGRICANS

- Hyperpigmented, velvety-textured plaques involving flexural skin, including neck, axilla, and groin. May also involve areola, umbilicus, vulva, perioral, and dorsal fingers.
- Pt complain of asymptomatic dirty appearance of skin
- Most commonly seen with obesity and insulin resistance and onset is slow.
- Less commonly seen in association with malignancy and onset is rapid
- Treatment: not necessary, ammonium lactate 5% or 12%
Burns

- First degree burns involve the epidermis. Sx of redness, swelling, and pain.
- Second degree burns involve partial thickness. Sx of pain, redness, swelling, and blisters.
- Third degree burns are full thickness. Skin may be black, white, or charred. May be numb.
- Rule of Nines to assess total body surface area involvement.
- Tx: ABCs, wound care, supportive, hospitalization may be required for severe injuries and transfer to burn center may be necessary
RULE OF 9’S
Pressure Ulcers

- aka pressure sores, decubitus ulcers, bed sores, etc.
- Ischemia due to immobility
- Increased risk with moisture and poor nutrition
- Stage I: non-blanchable erythema, usually over a boney prominence. May be painful, warmer or colder
- Stage II: Partial thickness, loss of epidermis, shallow ulcer
- Stage III: Full thickness skin loss, SC tissue may be visible
- Stage IV: Full thickness tissue loss with exposed bone, tendon, or muscle
- Tx depends upon severity

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PRESSURE ULCERS

Stage 1: Skin
Stage 2: Soft tissue
Stage 3: Bone
Stage 4: Bone

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PILONIDAL DISEASE

- Infected hair follicle leads to abscess formation.
- Located at superior aspect of gluteal cleft
- More common in men. Occurs after puberty
- Presents as tender, draining cyst, sinus formation, and scarring.
- May have associated systemic symptoms including fever and malaise
- Treatment: Excision
Uncommon, chronic disease of follicular unit, in areas with apocrine glands

Usually appears post-puberty. Women > Men

Multiple tender, draining nodules with subsequent scarring and sinus tracts in axilla, groin, buttocks. Usually bilateral.

Hallmark lesion is “double comedone”

Treatment: topical abx, oral abx, I&D, excision, intralesional steroid injection, adalimumab (Humira).
Urticaria

- aka Hives
- Immunologic response to ingested (food, additive, drug), injected (insects, drug), or inhaled (dust, mold, pollen, feathers) substances. "Bugs and drugs most common"
- Primary lesion is the wheal.
- Transient (<24 h) red or white, edematous papules or plaques
  - Itching is common and can be severe
- Acute if <6 weeks and chronic if >6 weeks.
- Treatment: remove causative agent, oral antihistamines are mainstay of tx, oral steroids for severe cases
BIBLIOGRAPHY

- www.npuap.org
THANK YOU FOR YOUR ATTENTION AND GOOD LUCK!