Dermatology Pearls for the Primary Care Provider

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Disclosures

I have no financial interests to disclose.

Some treatments I will talk about are "off-label." However, they are generally accepted as treatments in the dermatology community with supporting evidence-based research.

Objectives

- Explain the management and treatment of acne based on severity and type of acneiform lesions as well as recognize and treat perioral dermatitis according to current clinical guidelines.
- Discuss the clinical presentation, management and treatment of atopic dermatitis, psoriasis and tinea skin conditions.
- Describe the clinical presentation of venous stasis dermatitis, hidradenitis suppurativa, lichen sclerosus et atrophicus, cutaneous lupus and bullous pemphigoid and how to initiate treatment of the condition and/or when to initiate a referral to a dermatology provider.

Please do NOT take photos of the dermatologic photographs in this presentation.

Acne

Overview

- Acne affects 50 million in the US
- Components: Inflammation (a factor of sebum production, immunity, genes, perhaps diet), bacteria (*C. acnes*), hormones
- ***Natural*** guidance for patients:
  - Avoid dairy, follow low glycemic index diet (good evidence for both)
  - topical tea tree extract may be beneficial
- Limited evidence for the following: sulfur, nicotinamide, resorcinol, sodium sulfacetamide, aluminum chloride, and zinc

Treatment: Mild - TOPICALS

- First line:
  - Benzoyl Peroxide (BP) or
  - Topical retinoid (e.g. tretinoin, adapalene, tazarotene) → comedonal acne
    - SE: dryness, sun sensitivity, contraindicated in pregnancy
- Or combination of any of the following:
  - BP with clindamycin 1% or erythromycin 2%
  - BP and topical retinoid
  - BP, topical retinoid and topical clindamycin/erythromycin
- Why should you never prescribe topical ABX as monotherapy?

Treatment: Mild - TOPICALS

- Alternatives:
  - Azelaic Acid 15% gel or foam - good for hyperpigmentation
    - anti-comedogenic, antibacterial and anti-inflammatory, few SE.
  - Dapsone 5% gel - good for inflammatory acne in adults
  - OTC salicylic acid - good for comedonal acne
- Pearls for Colorado:
  - BP Gel is often drying (unless in a combo topical). I prefer OTC washes of 2.5-5% strength.
  - Don't start with a retinoid stronger that adapalene 0.1% gel or tret 0.025% *cream*

Treatment: Moderate - Topicals + PO

- Combination of topical BP, ABX and retinoid
- May add on oral antibiotics: doxycycline or minocycline
  - 100mg daily or 100mg BID
  - **No longer than 3-6 mos**
  - SE: GI upset - especially w/hyclate formulation, sun sensitivity, avoid calcium/dairy
    - Minocycline: more likely to see pseudotumor cerebri, HA, dizziness and bluish grey skin discoloration, lupus-like syndrome than doxy
  - Ask about baby teeth in young/pre-pubescent teens, approved for >8yo
  - Contraindicated in pregnancy

Treatment: Moderate - Hormonal Therapy

- **FDA approved OCPs for acne:**
  - ethinyl estradiol/ norgestimate (Ortho Tri-Cyclen)
  - ethinyl estradiol/norethindrone acetate (Estrostep Fe)
  - ethinyl estradiol/drospirenone (Yaz/Yasmin)
  - ethinyl estradiol/drospirenone/levomefolate (Beyaz)
  - All decrease androgen production, great for PCOS patients
- **Spironolactone -** Decreases testosterone production
  - Dosing: 50mg daily to 100mg BID - 3 to 6 mos for improvement
  - SE: diuresis, menstrual irregularities, breast tenderness, fatigue, HAs, ***hyperkalemia,*** GI upset
  - Theoretical feminization of male fetus in animal studies - DC 2 months before attempting to conceive
  - ?Breast Cancer - evidence does not support this

Treatment: Severe

- First line: PO ABX alone or with combination of topicals already mentioned **OR**
- **Isotretinoin** - decreases sebum production, changes the pilosebaceous unit to decrease acne lesions
- 80% cure rate
- Use for severe nodulocystic acne or moderate acne that is resistant to other treatments.

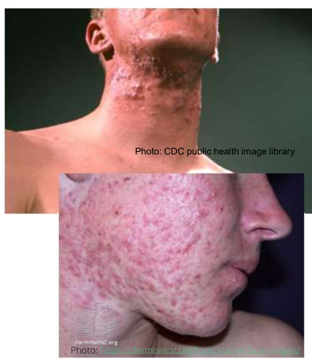
Photo: CDC public health image library
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Treatment: Severe - Isotretinoin

- Dosing - many options → low dose, high dose, cumulative dosing
- Screening: IBD, depression/suicidal tendencies, history of LFT and triglyceride abnormalities, plans to conceive
  - Some studies show it's associated with decreased scarring *and* decreased anxiety and depression
- Causes severe fetal abnormalities - I-pledge requirements
- Refer to derm.

Clinical Pearls

- BP breaks down tretinoin - don't have pt apply at the same time
- Avoid resistance: Always add on BP (OTC or Rx) with Clindamycin
- Never prescribe Doxy/mino longer than 6 months
  - 3 months is optimal for most.
- Personal experience: 100mg daily appears to do as well as 100mg BID with less SE.
- Consider OCPs and Spironolactone for female acne patients.
- Please refer for isotretinoin. Please don't be afraid of suggesting isotretinoin. It can be life changing for our severe acne patients.

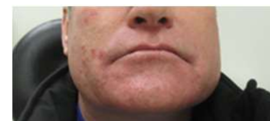
Perioral dermatitis

Overview

- Causes: ***Unknown***. Triggers seem to be topical/inhaled/nasal steroids, spices (cinamon, nutmeg), gum (wintermint, spearmint), fluoride, thick cosmetic.
  - hormones → pregnancy/proceeding menses/OCPs
  - atopic dermatitis → decrease in skin barrier
  - PO steroids? → seen in renal transplant pts on systemic steroids
  - Microorganisms → Fusobacteria, ***Candida, Demodex***
- Population: Mostly younger women, children
- Often resolves on its own.
- DDX: acne, contact dermatitis, seborrheic dermatitis, rosacea

Clinical Presentation

- Clinical presentation: erythematous pinpoint/small, often mildly scaly papules clustered around the periorbital and perioral areas. +/- burning or stinging
- Pearl: spares the vermilion border



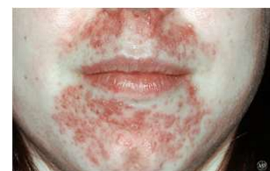


Photo from AAD: https://www.aad.org/public/everyday-care/skin-care-secrets/face/facial-redness

Treatment

- Stop steroids
  - Pearl: I prefer the cold turkey method.
  - Counsel: Will get worse before it gets better.
- Oral doxycycline 100mg daily to BID x 4 weeks, sometimes up to 8 weeks.
  - Minocycline can also be used.
- **Combine** with topical metronidazole cream daily to BID for 4-8 weeks.
- Children or pregnant: erythromycin 250mg to 500mg daily
- Other topicals to try if not responding: pimecrolimus, tacrolimus, azelaic acid, sulfacetamide, topical adapalene, erythromycin, and clindamycin

Pearls

- Spares the vermilion border
- Combination of PO doxy and metronidazole cream is preferred
- If metrocream isn't used, pimecrolimus (Elidel) or azelaic acid (Finacea) are next in line.
- For kids, I usually use pimecrolimus or azelaic acid before prescribing oral ABX
- Follow up in 30 days to reevaluate and extend treatment if needed.
- Counselling is important → patients should STOP all of their products, especially steroids and emphasize that it will get worse before it gets better.

Atopic Dermatitis
AKA Atopic eczema

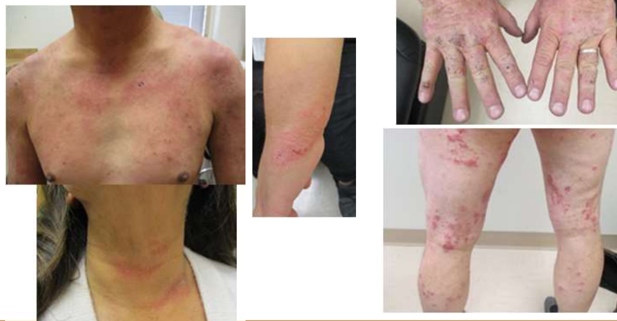
Overview

- 90% of atopic dermatitis (AD) patients are symptomatic by age 5
  - Seen in 25% of kids and 4-10% of adults
- 10-30% of patient's symptoms resolve by adulthood
- Risk factors for developing AD: FHx of atopy and mutational loss of the FLG gene which plays a key role in skin barrier function.
- Other associated conditions: food allergies, asthma, and allergic rhinitis or conjunctivitis
- Affects quality of life: sleep disturbance, higher rates of depression, possible association with ADHD and celiac disease

Diagnosis

- AAD diagnostic features: Must have pruritus and eczema
  - Eczema clinical presentation: erythema, edema, xerosis, erosions/excoriations, oozing and crusting, and lichenification with chronic/recurring history
  - Locations: Facial, neck, and flexural areas
  - Typically, spares the groin and axillary regions
- AAD "Important Features" of AD: childhood onset, Personal/family history, IgE reactivity, dry skin
- Biopsy can be helpful to rule out other conditions
  - Elevated serum IgE seen in 80% of patients but not diagnostic
- Patch testing is helpful to r/o allergic contact dermatitis

Presentation



Treatment: Topicals - Attack the xerosis

- Moisturizing - must repair skin barrier
  - Patients prefer creams over ointments as they are less greasy
  - Lotions often have alcohol in them and can be drying or irritating.
  - There are few clinical trials comparing moisturizers (even prescription moisturizers)
  - Fragrance free is essential, ceramides may be helpful
  - Apply frequently (2-3x/day) and generously. After bathing is best.
- Limit use of soap: fragrance free, hypoallergenic cleansers are best
- DILUTE bleach baths and intranasal mupirocin
  - helpful in moderate to severe disease
- Topical antihistamines, topical antibiotics, antibacterial soaps have no efficacy per available studies.
- Second line treatment: phototherapy

1st Line Treatment: *Topical Steroid (TCS) Guide*

- **Low potency:** face, neck, genitalia, axilla
  - hydrocortisone 2.5% BID, desonide 0.5%, triamcinolone 0.25% creams/ointments.
- **Mid to high potency:** body areas including trunk/extremities
  - triamcinolone 0.1 or 0.5% cream/ointment, mometasone 0.1% cream/ointment, Betamethasone 0.5% cream/ointment
- **Super or Ultra High potency**: severe AD/thick plaques, soles/palms
  - clobetasol 0.5% oint/cream, Augmented betamethasone, Halobetasol
- **Scalp:** mometasone solution, fluocinonide oil, Clobetasol solution
- Twice daily (once daily works for some), 2 weeks on, 2 weeks off→ recheck.
  - Side effects: skin atrophy, steroid reliance or rebound effect, purpura, telangiectasia, striae, focal hypertrichosis, acne, rarely hypothalamic-pituitary-adrenal axis suppression (children)
  - Maintenance therapy can be 1-2x/week

Treatment: topical calcineurin inhibitors

- Steroid sparing, anti-inflammatory: tacrolimus (Protopic) pimecrolimus (Elidel)
  - Great for delicate areas such as the face/eyelids
  - Consider when pt has been on TCS for long periods of time or showing skin atrophy features or resistance
  - Use for acute or chronic flares
  - Use alone or in combination with TCS
- Off label guidance by AAD for <2 years old, mild to severe AD
  - 0.03% tacrolimus or 1% pimecrolimus ointment
- Most common SE is burning/stinging
  - Theoretical risk: increased risk of cutaneous viral infections (not seen in 5 yr studies)
  - Black box warning: Theoretical rare malignancy (skin CA, lymphoma) - based off of transplant patients given PO version and animal studies given super-human doses

Treatment: Newest Topical

Crisaborole (Eucrisa) 2% ointment

- phosphodiesterase inhibitor (PDE4) inhibitor - non steroidal
- Approved down to 2 years of age
- Apply BID
- Side effects: burning
  - This will wear off as patient uses it. Refrigeration helps.
- pregnancy category not assigned
- Steroid sparing - very safe
- Insurance coverage can be difficult.

Treatment: Systemics

- Oral steroids
  - Avoid unless patient is having a severe flare and is bridging to a steroid sparing agent.
  - Consider a soak and smear - very effective but time intensive
  - If you need to prescribe prednisone, a 2 week course is a good place to start of 0.5 to 1mg/kg with a taper.
    - Taper reduces risk of adrenal suppression
    - SE: adrenal suppression, mood changes, decreased bone density, increased thirst/hunger, increase glucose esp. in DM, HTN, rare risk of psychosis. Peds experience decreased growth.
- PO antihistamines are not recommended for long term treatment
  - They can be helpful in the short term or intermittently if the pt is having issues sleeping.
    - Do NOT use as a substitute for topical therapies.

Treatment: Biologic

Dupilumab (Dupixent) - newest biologic for AD

- blocks interleukin (IL) 4 and IL-13 - these drive diseases such as AD, asthma, allergic rhinitis, and food allergies
- Approved down to 12 years of age
  - 12-17 yo, <60kg - Starting dose 400mg SC x1, then 200mg SC Q 2 weeks
  - Adults, peds>60KG - Starting dose 600mg SC x 1, then 300mg SC Q 2 weeks
- FDA approved for moderate to severe AD and asthma, >10% BSA is severe
- May be considered before other immunosuppressants (on next slide).
- Most common SEs: nasopharyngitis, URI, conjunctivitis, headache, injection site reaction
- No lab monitoring

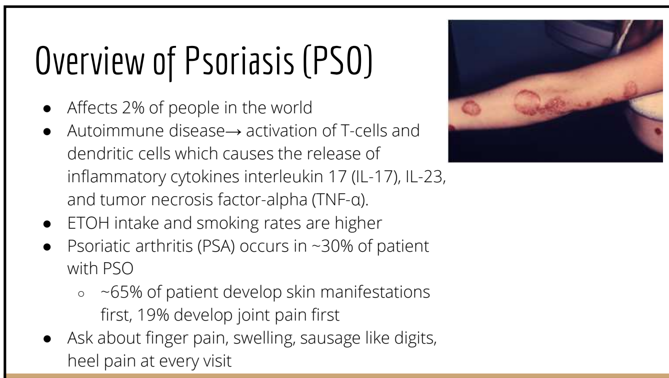
Treatment: Systemics

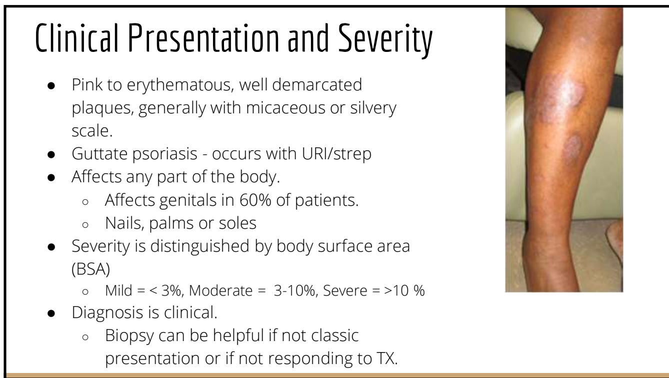
- Steroid sparing oral agents: methotrexate, cyclosporine, mycophenolate mofetil (CellCept), azathioprine
  - Immunosuppressants
  - All can be dosed for pediatrics
  - None are recommended in pregnancy (cyclosporine was formerly known as category C, while others were D or X.)
  - All are effective, some slower working than others, all require lab monitoring and can have significant side effects.
  - Refer to derm for any of these medications.

Pearls

- Topical Steroids - Counsel on proper use and become familiar with low, medium and high potency types so you can prescribe with confidence.
  - Desoximetasone is allergen free. Try to use it if you suspect a TCS ingredient allergy.
- Consider patch testing
- Do NOT prescribe a Medrol Dose Pack or other short term burst of PO steroids.
- Pimecrolimus (Elidel) is preferred non steroidal for most insurances → easily approved for eyelids
- Dupilumab can be life changing for patients, although expensive.

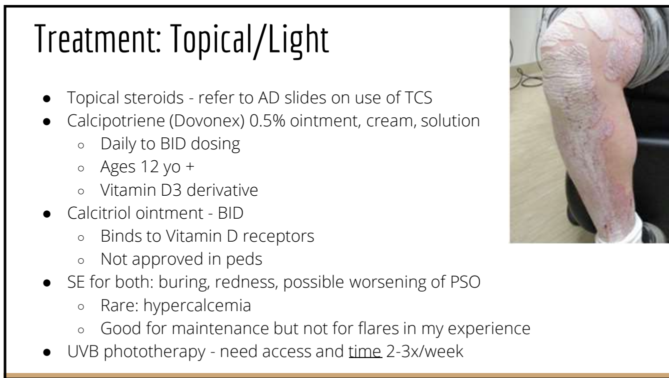
Psoriasis





Comorbidities - PCPs are SO important!

- Metabolic syndrome, Heart disease (stroke and MI), Diabetes, Obesity
  - All likely encouraged by proinflammatory response of cytokines
  - Patients should have regular evaluation of weight, BP, Lipids, HgbA1c
- Higher rates of depression, anxiety
- Decreased quality of life, work productivity and sexual health
- Association with inflammatory bowel disease
- Increased malignancy risk:
  - lymphohematopoietic cancers (esp. cutaneous T-cell lymphoma), head/neck & digestive tract
  - Non Melanoma Skin CA - UVA therapy and possibly those on TNF blockers.



Treatment: Biologics - TNF alpha inhibitors

- Etanercept (Enbrel)
  - Dosing: Loading dose: 50 mg twice/wk for 12 weeks, then 50 mg weekly
  - FDA approved for PSO and PSA down to 4 years old
- Infliximab (Remicade): Infusion
  - Dosing: 5 mg/kg at weeks 0, 2, and 6 and thereafter every 8 weeks for
- Adalimumab (Humira)
  - Dosing: 80mg SC x 1, then 40mg at week 1, then 40mg every other week
- All FDA approved for psoriasis and PsA
- Full response is seen 3-4 months after starting treatment
  - can consider dose increase if not responding
  - Obese patients are less likely to respond

Treatment: TNF alpha inhibitors

- TNFs alone do not increase risk of malignancy but combined with other meds (immunosuppressants) may play a role.
  - Caution if patient has a history of CA.
- HIV +: ok if being treated with antivirals→ consult with pt's ID provider.
- Hep C: ok, Hep B: need treatment with antivirals, then OK
- Screen for MS, CHF, malignancy (esp. lymphoreticular), current infection
- Lab screening: CBC, CMP, TB, Hepatitis B and C, HIV case by case
  - Yearly: TB, per provider discretion CMP, CBC
- Side effects: injection site reaction, increased risk for infection, drug induced lupus, CHF exacerbation, hepatotoxicity mostly with infliximab
- Generally accepted as safe in pregnancy

Treatment: Biologics - IL12 and IL23 inhibitor

Ustekinumab (Stelara)

- FDA approved for PSO and PSA (and Crohn's) in 12+ yo patients
- Adult dosing:
  - adults weighing ≤100 kg: 45 mg SC x1, then at 4 weeks, then 45 mg Q12 weeks.
  - >100 kg, 90 mg SC, then 4 weeks later, then 90 mg S Q12 weeks
  - Peds dosing is different based on weight but same type of schedule.
- Potentially a better option for obese patients.
- Takes 12 weeks for efficacy to be evaluated
- No evidence of increased risk of malignancy
- Can be used in Hep B/C or HIV + pts
- Screening: same as TNFs

Treatment: Biologics - IL17a inhibitors

Secukinumab (Cosentyx) and Ixekizumab (Taltz)

- Both FDA approved for PSO and PSA
  - Ixekizumab - approved down to 6 yo for PSO
  - Secukinumab dosing: 300mg SC (2 pens) weekly x 5 weeks, then monthly
  - Ixekizumab dosing adults: 160mg SC (2 pens) x 1, then 80mg Q2 weeks x 12 weeks, then monthly
  - Can use in Hep B/C, HIV +, no evidence of increased risk for CA
  - SE: oral thrush, increased infection risk. Contraindicated for IBD patients
  - Screening: same as TNFs but can skip Hepatitis/HIV
- Brodalumab (Siliq) - IL17 and IL25 inhibitor - good efficacy data but has a black box warning for suicidal ideation, only prescribed through a restrictive program

Treatment: Biologics - IL23 inhibitors

Guselkumab (Tremfya), Risankizumab (Skyrizi), Tildrakizumab (Ilumya)

- PSO only, no peds approval.
- Guselkumab dosing: 100mg SC x 1, then at week 4, then Q8 weeks
- Risankizumab dosing: 150mg (2 pens) SC x1, then at week 4, then Q12 weeks
- Tildrakizumab dosing: 100mg sc x1, then 4 weeks later, then Q12 weeks
- Efficacy within 12 weeks (often faster)
- No evidence of increased malignancy risk, can use in Hep B/C, HIV + pts
- Side effects: increased risk for infections, increased ALT/AST (rare)
- Newest and expensive and usually have to go through step therapy.

Biologic Pearls

- Advise patients on biologics to stop their medication when they are ill, especially if they have a fever and/or require antibiotics.
- Covid 19: So Far - no need to stop, unless infected
- Restart after full resolution of signs and symptoms of infection and after ABX are completed.
  - If they are off the biologic more than 3-4 half lives, they may need another loading dose.
- Surgeries: Ok to continue biologic with low risk surgery per AAD guidelines.
- Vaccines: Dead are ok, live are not
  - No consensus on how long to stop a biologic before giving a live vaccine (maybe 2-3 half lives, maybe 4 weeks + 1-2 weeks before starting again).

Treatment - Non Biologics

- Apremilast (Otezla)
  - Phosphodiesterase 4 (PDE4) inhibitor: decreases inflammatory responses of T helpers 1 and 17.
  - FDA approved for mod to severe PSO and PSA
  - Dosing: 30 mg twice daily PO
    - Loading dose: 10 mg daily, titrated up by 10 mg per day over first 5 days.
    - Do not use with cytochrome P450 meds (rifampin, phenobarbital, carbamazepine, phenytoin)
  - Efficacy is hit or miss in my experience.
  - SE: diarrhea, nausea, URIs, headache
    - Ask about depression - occurs in 1% of patients
    - Weight loss in 5-10% of patients
  - Labs monitoring not necessary but can be considered.

Treatment - Non Biologics

- Methotrexate - most common, immunosuppressant, used for 50 years.
  - Frequently used for PSA as well. Less effective than TNF alphas.
  - Dosing: 7.5 mg to 25 mg weekly
  - Folic acid supplementation recommended
  - SE: fatigue, GI upset, mouth ulcers. Rare: myelosuppression, liver toxicity, pneumonitis (RA), Toxic epidermal necrolysis (TENs)
  - Contraindications: cirrhosis, thrombocytopenia, leukopenia, anemia, pregnancy, lactation, ETOHism.
    - Many drug-drug interaction
  - Increased risk of infection, reactivation of latent TB, hepatitis and lymphoma
  - Labs: Initial → Hepatitis B & C, TB, CBC, LFTs (at least)
    - Monitoring: LFTs every few weeks, then Q3-6 months with CBC (many recommendations on monitoring)

Treatment - Non Biologics

- Cyclosporine - immunosuppressant, steroid sparing
- Acitretin (Soriatane) - Retinoid
  - not for women of childbearing age
  - Best for palmar/plantar PSO
- Tofacitinib (XELJANZ) - Janus kinase (JAK) inhibitor
  - approved for PSA and RA.
  - Not approved for PSO but is OK in pregnancy.

Pearls

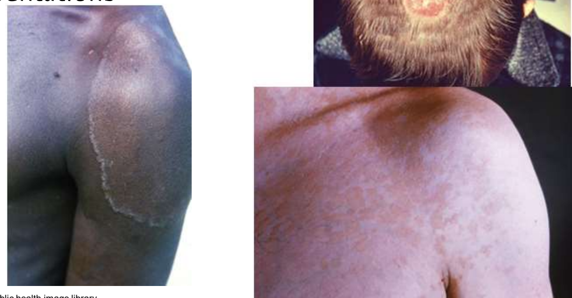
- Well demarcated plaques with silvery scale is key for recognition.
- PCPs role: screening for hypertension, diabetes, and hyperlipidemia.
  - Counselling on weight loss, smoking cessation, etc....everything you already do.
  - Reinforce that PSO makes patients more at risk for MI, stroke, DM. Patients need to take their health seriously.
- Be cautious when prescribing beta blockers
- Biologics have value for reducing inflammation and reducing comorbidity risk, are life changing for patients and are generally safe.
- Ask about joint pain in the fingers and heels as well as eye discomfort.
  - We need to be more aggressive with potential PSA - joint destruction is not reversible.

Tinea

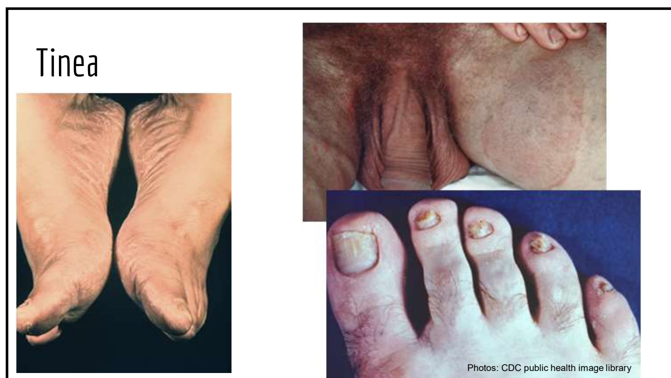
Clinical Presentation

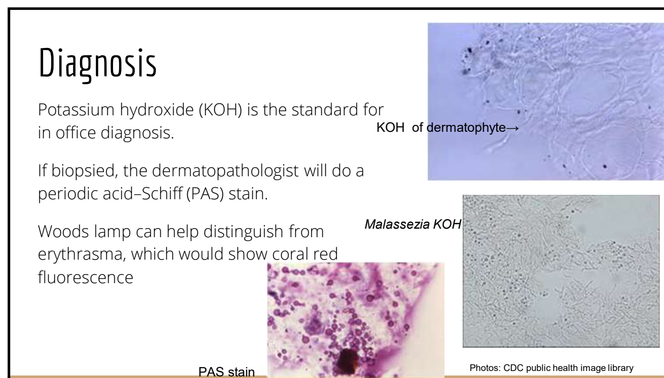
- Tinea = fungal infection or "ring worm"
- Tinea corporis (body), capitis (scalp), cruris (groin/jock itch)
  - Presentation: erythematous scaly plaque(s) with serpiginous or annual border
- Tinea unguium = onychomycosis/toenail fungus
  - Presentation: yellow/brown, thickened nails with subungual debris
- Tinea pedis - affects the feet
  - Diffuse erythema and scaling of the plantar feet extending to the arches, well demarcated.
- Tinea versicolor (pityriasis versicolor) - not caused by fungus. Caused by *Malassezia* yeast.
  - Tan to pink scaly thin plaques, typically affecting the trunk

Presentations



Photos: CDC public health image library





Treatment

- Tinea corporis, capitis, cruris and pedis:
  - Topical antifungals for **4-6 weeks** - ciclopirox, topical terbinafine, econazole (has the +++ efficacy but is expensive), ketoconazole, OTC Lamisil Ultra
  - For BSA that is extensive, consider PO treatment → Terbinafine 250mg daily for 2 weeks
  - Burrows solution for tinea pedis if macerated
- Tinea capitis:
  - 1% or 2.5% selenium sulfide (Selsun) shampoo or 2% ketoconazole shampoo
  - Combined with PO treatment:
    - Terbinafine: < 25 kg (55 lb): 125 mg once daily 25 to 35 kg (55 lb to 78 lb): 187.5 mg once daily > 35 kg (78 lb): 250 mg once daily
    - Fluconazole: Daily dosing: 6 mg per kg per day for three to six weeks or Weekly dosing: 6 mg per kg once weekly

Treatment: Onychomycosis

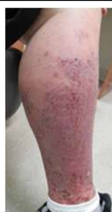
- Topical:
  - ciclopirox (Penlac) - daily to nails for 6 mos for finger nails, 1 year for toenails.
    - Cure rate is ~20%.
  - Efinaconazole (Jublia) is about 30%.
- Oral treatment: consider a nail clipping for PAS before jumping to PO TX
  - PO terbinafine - adults: 250mg daily, 6 weeks for fingernails, 12 weeks for toenails
    - Labs: Baseline LFTs, CBC, then every 4-8 weeks), cure rate ~60-70%, often recurs
  - PO fluconazole - Adults: 150 to 300 mg once weekly, 12 to 16 weeks for fingernails; 18 to 26 weeks for toenails, cure rate is less than 50%
    - Labs: Baseline ALT, AST, alkaline phosphatase, and creatinine measurements, CBC, no repeat for weekly dosing
- There is not good data for laser treatment.
- Diluted vinegar soaks help with a yeast involvement and are ***natural***!

Pearls

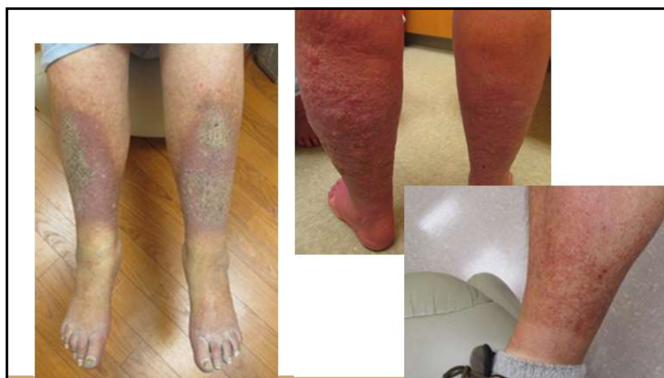
- Avoid the clotrimazole/betamethasone combination. It will not improve the condition for many cases.
  - Topical Steroids make tinea worse → consider when treating empirically.
- Clotrimazole and miconazole have low efficacy for tinea.
- Do not use nystatin - not effective for dermatophytes.
- Topical ciclopirox has better insurance coverage but econazole has broader spectrum anti-fungal coverage. If the others aren't working, go to econazole.
- Not recommended: PO ketoconazole (black box warning), Griseofulvin (cost prohibitive).
  - PO terbinafine is cheaper, works well and is well tolerated.
- Nothing works well for onychomycosis

Venous Stasis Dermatitis

Overview and Clinical Presentation



- Occurs in over 6% of patients over age 65.
- Cause: venous hypertension of superficial or deep veins.
  - Common in elderly, obese, sedentary, pts on their feet for long periods of time, +varicose veins or hx of trauma or DVT of the lower leg(s)
- Presentation:
  - Cayenne colored macules → Hemosiderin is a protein that stores iron - deposits in the skin
  - Erythematous ill-defined scaly plaques or diffuse erythema and scaling or firm, taught, shiny plaques causing an inverted champagne bottle appearance (lipodermatosclerosis)
- DDX: cellulitis, xerotic eczema, atopic dermatitis, and exercise-induced vasculitis
- Pearl: This is not cellulitis. ABX are not indicated for TX.



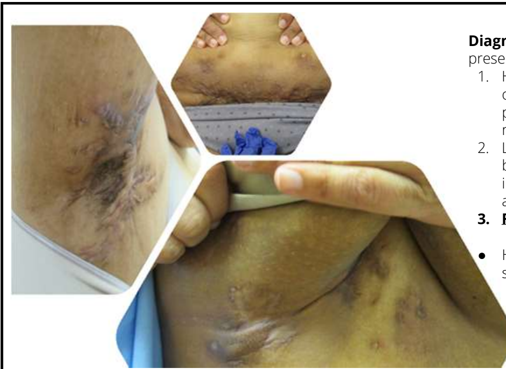
Treatment

- Compression socks - 20–30 mmHg, knee highs are often enough
- Pearl: Poor TED compliance? Try an ACE Wrap.
  - This seems more tolerable for the majority of my patients and there is research to recommend wraps.
- Skin Care: Strong TCS (Clobetasol ointment or Triamcinolone 0.1% or 0.5% ointment BID 2-4 weeks, then stop and re-assess).
  - Avoid harsh soaps: hibiclens, peroxide, antibacterial soaps.
  - Encourage plain water/saline, Dove, CereVe, Cetaphil, Aveeno.
- Work up the cause → Refer to vascular for doppler US, possibly CT, etc.
- As a PCP, consider a diuretic if pitting edema, work up for all the worrisome culprits, e.g. CHF.
- Pearl: the hyperpigmentation will likely NEVER resolve.

Hidradenitis Suppurativa (HS)

Overview

- Chronic inflammation of the terminal hair follicle
- Usually starts after puberty a typically **LIFE LONG** condition
- Typically female, more frequently in African American population
- Pathogenesis: Occlusion and weakness of the hair follicle, immune component combined with inflammation, friction, genetics, hormone mediated
- 0.1% to 4.1% prevalence - but likely underdiagnosed
- Rates of depression as high as 42%
  - More than twice as likely to commit suicide
- NOT a hygiene issue!
- NOT an infectious process.



Diagnosis: based on clinical presentation

1. HS Lesions: Double open comedones, painful, inflammatory nodules, sinus tracts
2. Locations: groin, buttocks, axilla, inframammary folds, abdominal pannus
3. **Recurrent**

- Hurley Staging is a severity tool.

Comorbidities

- Cardiovascular disease
- Diabetes (~30% of patients with HS)
- Metabolic syndrome
- PCOS (~9% of patients)
- Autoimmune disorders: inflammatory bowel disease, psoriasis, inflammatory arthritis (RA, PSA).
- Depression/anxiety
- Squamous Cell Carcinoma of areas of HS
- Follicular occlusion tetrad: Hidradenitis suppurativa, acne conglobata, dissecting cellulitis of the scalp and pilonidal cysts
- Lifestyle: Smoking, high ETOH use, obesity

Treatment: Lifestyle Modification

- **Smoking Cessation!**
- **Weight loss** if patient is obese.
  - Some studies support this, some do not, but it will help with other comorbidities and likely improve the HS.
- Dairy avoidance
- Zinc - may help with innate immunity and reduce inflammation. Zinc gluconate/sulfate 90mg daily.
- Vitamin D - if deficient, may help
- Loose clothing, shaving, deodorants → poor evidence for changing these.

Treatment: Topicals

- Chlorhexidine, benzoyl peroxide washes and zinc pyrithione
- Topical clindamycin - helps with pustules
  - BP wash will help reduce resistance to ***staph aureus*** .
- Intralesional triamcinolone - 5-10mg/ml
  - Reduces inflammation, erythema, swelling, helps with pain control, risk of steroid atrophy and telangiectasias.

Treatment: Systemic Antibiotics

- Used for antibacterial and anti-inflammatory effects
- **Doxycycline/minocycline** 100mg daily to BID most common
  - 30 days to 12 weeks
  - Not indicated for pregnant women
- Clindamycin and rifampin 300mg BID x 8-12 weeks.
  - Rifampin - high resistance, orange discoloration of body fluids, lots of drug interactions → cytochrome P450
  - AAD recommends for severe disease as first line or adjunct treatment.
  - European guidelines recommend as second line treatment.
- Other antibiotic types have ZERO data.

Treatment: Hormonal Options

- Spironolactone - decreases androgen activity
  - Start at 50mg QHS and titrate up to 100mg BID as tolerated
  - Females only, stop 2 months before trying to conceive, little data that K+ needs to be monitored, very well tolerated, check BP before starting.
  - SE: fatigue, dizziness, menstrual irregularities, breast tenderness
- Combination estrogen/progesterone oral contraceptives.
- Avoiding progesterone only forms of birth control is recommended
- Metformin 500mg BID to TID - Likely best for PCOS patients or those with DM
  - GI side effects most prohibitive
- Finasteride 1 to 5mg daily
  - Blocks conversion of testosterone to dihydrotestosterone in peripheral tissues
  - Not recommended in women of childbearing age

Treatment: Retinoids and Biologics

- Isotretinoin and acitretin
  - Better for patients with concurrent nodulocystic acne.
  - Acitretin not recommended for women of childbearing age
- Adalimumab (HUMIRA) - TNF-α inhibitor.
  - Only FDA approved biologic for treating HS.
  - Internationally accepted as first line treatment for Hurley Stage 2 & 3
  - Weekly dosing (PSO is biweekly)
  - Takes 6 months to see efficacy
- Infliximab (Remicade)
  - Not approved by FDA for HS but has been studied.
- Ustekinumab (Stelara) and Secukinumab (Cosentyx)
  - Possible future treatments

Treatment: Surgical Intervention

- Incision and drainage: 100% recurrence rate
    - only provides acute pain relief
- Wide local excision - reserve for ***severe, localized,*** recurrent lesions.
    - Scarring and mobility restrictions should be discussed
    - Limited data on recurrence rate - possibly around 30%
- Deroofing - fairly good evidence that this can help but still can have high recurrence rate.
    - More studies needed as well as guidelines for performing the procedure.
    - Risk of starting a procedure and sinus tract is much larger and deeper than perceived via palpation/exam.
    - One study showed 17% recurrence.

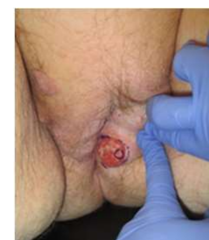
Pearls

- Essential to use a multi-pronged treatment approach.
    - Monotherapy does NOT work
- Counselling on lifestyle change is essential
- Avoid overuse of antibiotics
- Consider spironolactone in females
- Find a dermatology provider that is experienced in this condition and will ***take time*** to care for these patients.
- Humira can be a good treatment option for moderate to severe patients.
- Stelara is in the pipeline (phase 2 trials).
- Prediction: There will be more biologics to come in the future.
- Excision is only for severe, localized areas (not everywhere HS lesions exist).

Lichen Sclerosus (LS)

Overview

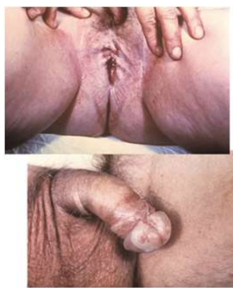
- Chronic, inflammatory skin condition mainly of the genital and anal areas
- Autoimmune
- Genetic predisposition
- Most common in postmenopausal women (3% incidence) and pre-pubescent females
- Rare to occur in males
- Increases risk of SCC by ~5 % in female genital locations
- LS found in 23–40% of penile cancers



SCC of labia

Clinical Presentation

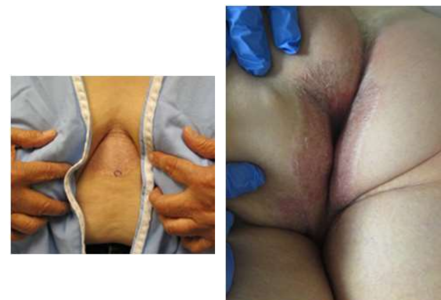
- Erythematous or white, atrophic plaques, often shiny in appearance
- Scarring, erosions, fissures, destruction of genitalia (clitoris or labia minora/majora)
- Symptoms: pain, pruritus, urinary problems, sexual dysfunction/pain with sex
    - Prepubescent females - see more ecchymosis, often in perianal area, can koebnerize from sexual trauma so should be a consideration
    - Often improves at puberty



Photos from CDC Public Health Image Library: https://phil.cdc.gov/QuickSearch.aspx?key=true

Diagnosis

- DDX: Lichen planus, eczema, psoriasis, vitiligo
- Diagnosis based on presentation and symptoms
- Biopsy necessary when clinical presentation is confusing



Treatment

- Clobetasol ointment (or other ultra-potent TCS) 0.5gm/fingertip amount daily for 2-3 months
- Tips:
  - ointment better than cream (more tolerable)
  - Advise patients to use hand held mirror → Show them where to apply
  - Encourage emollients, unscented water-based lubricant for intercourse, avoid soaps and scrubbing
- Two to three month follow up - If responding well, continue Clobetasol twice weekly as maintenance and possibly add on Elidel → f/u in 3-6 mos
- Twice weekly TCS treatment can maintain remission in over 90% of compliant patients

Treatment

- Not responding:
  - consider biopsy
  - patch testing for ACD
  - changing TCS in case there is an irritant for patient
  - Methotrexate or acitretin for severe cases.
- Males who do not respond → may consider circumcision or other surgical intervention, especially if urinary problems are persistent.
    - Refer to urology.
- Children are more susceptible to atrophy and TCS side effects so **mometasone** may be a better treatment (has less systemic absorption).

Pearls

- Evaluate the vulva closely.
  - Sometimes LS can be subtle. Any white plaques or missing scarring of genitalia should raise suspicion.
- Refer for this condition due to risk for SCC and possible need for a biopsy.
  - If you don't have a referral network, consider biopsy if clinical presentation isn't clear.
- Don't be afraid of ultrapotent TCS in this condition.
  - Skin atrophy side effects are typically not a problem in adults, even with long term use.
- The sooner this condition is diagnosed, the more chance for keeping genitalia in tact.
- Consider psychosocial effects: pain with sex, limitations on for patients that like to bike, horseback ride or other activities that would be painful with sitting

Cutaneous Lupus Erythematosus (CLE)

Overview

- 2-3 times more common than systemic lupus erythematosus (SLE)
- More common in women, presents in middle age, more common in skin of color
- Autoimmune disease - factors of genetics, environment, hormones play a role
- 20-50% of patients diagnosed with CLE will go on to develop SLE
- Drug induced lupus
  - Common classes of medications: chemotherapies, biologics, antiarrhythmics, antihypertensive medications, antipsychotics, and antibiotics
  - See reference by Okon, L. & Werth, V. (2013) for an extensive list of drugs that induce CLE.
- SLE symptom screening: chest pain/SOB, oral ulcers, joint pain, fatigue, urinary symptoms, headaches, seizures, psychosis

CLE Subtypes: Acute cutaneous LE (ACLE)

- Malar rash→ Broad erythema across nose and cheeks with scale.
  - induced by the sun, intermittent, non scarring but pigmentation changes can occur.
- Most likely to have SLE (~ 50 to 100%)
- Labs: ANA + in 95% of patients, often + anti-dsDNA and anti-Sm antibodies
- Need referral to Rheum ASAP
- Very important to ask about SLE symptoms in these patients.
- DDX: rosacea, photo dermatitis or drug eruptions, atopic dermatitis, or dermatomyositis
  - look at hands for gottron's papules or cuticle overgrowth as dermatomyositis path is very similar to ACLE.

CLE Subtypes: Subacute Cutaneous LE (SCLE)

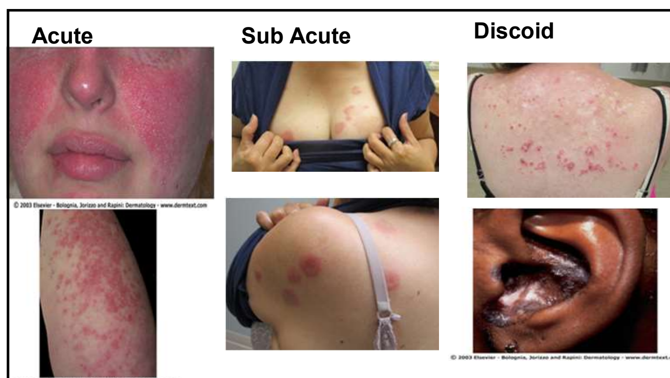
- Photodistributed → V distribution on chest and back, lesions on face, extensor arms/hands.
- Can be more annular lesions or present as scaly papules and plaques (psoriasiform)
- 30% develop SLE, but joint manifestations are most common.
  - Severe SLE disease occurs in only 10% of patients
- Often + anti- Ro/SSA antibodies
- DDX:
  - annular SCLE - granuloma annulare, drug eruption, erythema annulare centrifugum
  - Papulosquamous SCLE: psoriasis and photoallergic drug rashes

CLE Subtypes: Chronic Cutaneous LE (CCLE)

- Includes: discoid Lupus, *LE profundus, chilblain LE, and LE tumidus*

Discoid Lupus (DLE): Most common of CCLE

- Locations: head, neck, scalp, dorsal hands, forearms
- Well-defined, erythematous, scaly papules/plaques, coin-shaped.
  - Develop into scarred, atrophic, hypopigmented plaques or patches.
  - In the scalp, will see "carpet tacking" c/w follicular plugging.
- 5-10% develop SLE
- Can see koebnerization with sun or trauma.
- Can develop SCC in the lesions
- DDX: psoriasis, granuloma faciale, polymorphous light eruption eruption, and sarcoidosis



Diagnosis

- Punch biopsy
- Direct immunofluorescence (DIF) biopsy discussed in literature.
  - Most of the time not necessary.
- Labs: Base on your level of suspicion for SLE per rheum guidelines
  - ANA (most important), anti-SSA/SSB, anti-dsDNA
  - CBC to evaluate for anemia, thrombocytopenia, or leukopenia
  - CMP/UA for renal abnormalities

Treatment

- Prevention through strict sun protection → Mineral based sunscreens, UV protective clothing, vehicle window tinting, etc.
- Smoking Cessation!
- First line treatment: topical steroids
  - Low potency for face: hydrocortisone 2.5% BID, desonide 0.5%, triamcinolone 0.25% creams.
  - Mid to high potency for body i.e. trunk/extremities: triamcinolone 0.1% ointment, betamethasone 0.5% cream/oint or clobetasol 0.5% oint/cream.
  - Clobetasol or mometasone solution for the scalp.
  - Duration: 2-4 weeks, then recheck.
  - Consider alternating with tacrolimus or pimecrolimus
- Intralesional triamcinolone injections are helpful, especially on the scalp.

Treatment cont.

- First line systemic treatment: ***hydroxychloroquine, quinacrine, and chloroquine***
- **Hydroxychloroquine (Plaquenil)**: most commonly used. Studies show ~50% improvement rate.
  - Typical dose is 200 mg BID. Able to dose of up to 5-6.5 mg/kg/day.
  - Safer than chloroquine → lower incidence of retinopathy.
- All antimalarials take about 2-3 months to show efficacy.
- Side effects: skin rashes, GI upset, blue-gray skin discoloration, dizziness, HA, peripheral neuropathy, and ototoxicity.
  - Retinopathy → with hydroxychloroquine and chloroquine (~ 1%).
- Ophthalmology exams every 6-12 months. Most changes not seen until on drug for 5 years. Dose Dependent.

Treatment cont.

Second line PO treatment

- Systemic corticosteroids
- Steroid sparing agents:
  - Methotrexate 7.5 to 25mg orally or SC once a week
  - Mycophenolate mofetil
  - azathioprine, cyclophosphamide, and cyclosporine
- Others: rituximab, dapsone, acitretin, IVIG
- All above meds managed by rheumatology unless you have specific rheumatology training and it fits into your scope.

Pearls

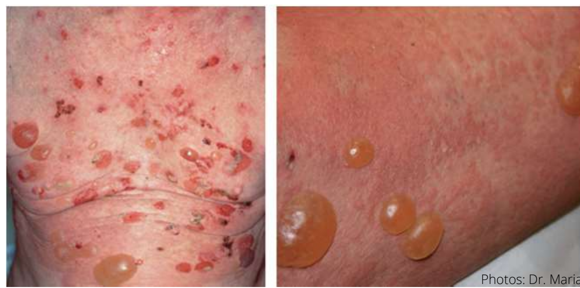
- Smoking cessation is crucial. Antimalarials are less effective in smokers.
- UV protection must be emphasized at every visit
- Refer to derm for punch biopsy and +/- labs
- Referral to rheumatology is warranted with a confirmatory biopsy.
- Refer all ACLE and probably all SCLE patients
- Discoid Lupus is less commonly associated with SLE so a rheum referral isn't a necessity but a yearly ANA is prudent for monitoring.
- Ask about SLE symptoms

Bullous Pemphigoid

Overview

- Typically affects the elderly, over age 75
- Autoimmune blistering condition
- Presentation: erythematous scaly plaques only or hive like lesions (early BP), later with tense blisters or bullae. Very itchy.
- Diagnosis: standard histologic punch biopsy of the lesion and DIF biopsy of perilesional area.
- DDX: dermatitis herpetiformis, epidermolysis bullosa acquisita, linear IgA dermatosis, or pemphigus vulgaris
- Can resolve or last several years

Clinical Presentation



Photos: Dr. Maria Sheron

Treatment

- High Potency topical steroids
- Doxycycline often combined with nicotinamide

Others:

- Oral steroids - taper over several months, need monitoring
- Methotrexate, mycophenolate mofetil, azathioprine, IVIG, rituximab
- Pearl: Please refer when you see blistering, itchy rashes. The patient will likely need multiple biopsies and close follow up.

Pearls

- Highlight that the patient has blisters in your referral.
  - Take the time to describe the lesions and add the diagnosis of Rash (ICD 10 - R21) and note with vesicle/bullae, etc.
- Find a dermatology practice that will take blistering rashes as soon as possible.
- If eyes or oral mucosa are involved (esp. after new drug introduction), think SJS/TENS - this is a Derm Emergency. Refer them to the ED.

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