



# WHAT'S THAT ITCH??

Gina Mangin, MPAS, PA-C



# DISCLOSURES

- Speaker for Abbvie
- Speaker for Regeneron Sanofi- Genzyme
- Speaker for Dermavant
- Ad Board Consultant for Arcutis
- Ad Board Consultant for Amgen
- Ad Board Consultant for Bristol Myers
- Ad Board Consultant for Lilly
- Ad Board Consultant for Johnson and Johnson
- Ad Board Consultant for Incyte
- Ad Board Consultant for Leo

# ITCH/PRURITIS

- #1 complaint with patients with a rash
- Rash
- Drug
- Insect
- In My head

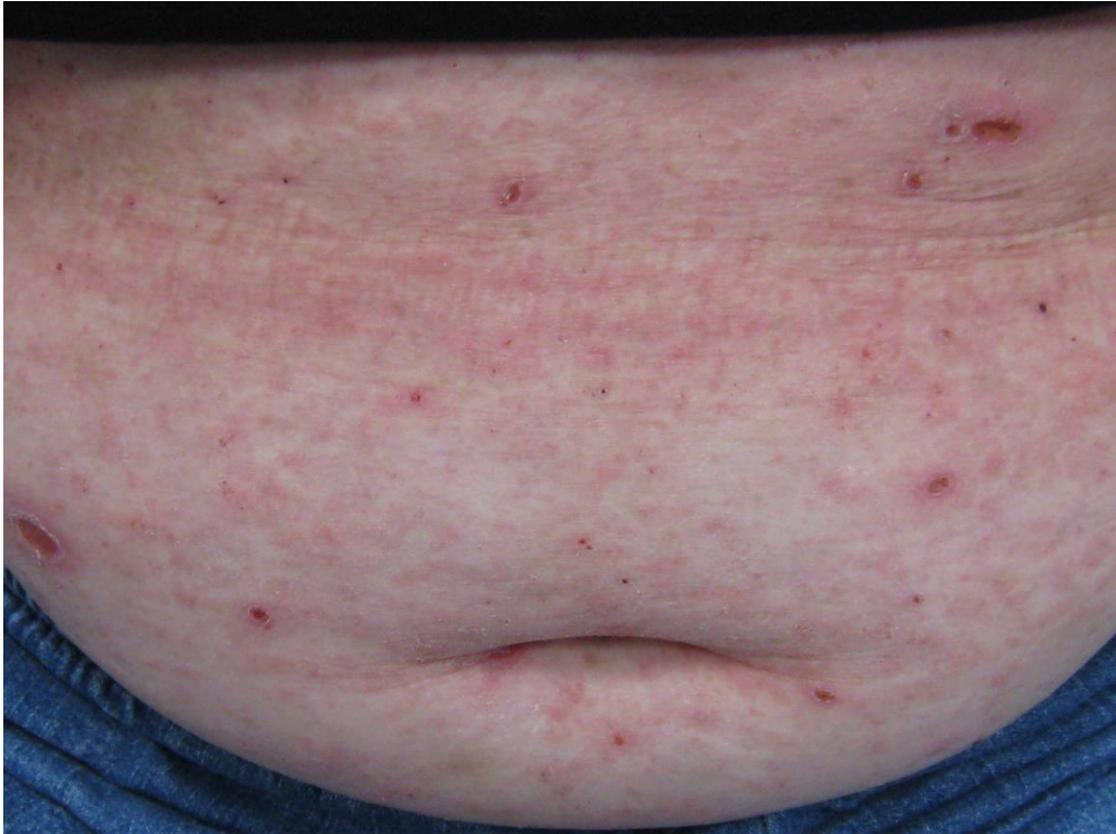
# SCABIES











# SCABIES

- *Sarcoptes scabiei*
- Presents with papules, vesicles, pustules, and nodules
- Web of fingers, flexor surfaces of wrists, axillae, abdomen
- Burrows: tiny grey irregular tracks
- Itch worse at night



# SCABIES

- Transmitted via close contact, including sex
- 10-15 mites on an individual at a time
- After mating the male dies
- Female burrows and lays up to 3 eggs each day
- Eggs to adult hood 10-14 days

# SCABIES TX

- **Permethrin**
- **Ivermectin**
- **Spinosad**
- Malathion
- Lindane
- Crothamiton
- Benzyl Benzoate: not used in US

- 
- Permethrin: apply twice, one week apart  
Keep on for 12 hours then wash off

Children up to 2y/o and elderly: scalp, neck, face, ears

Choice in PG women: only small amount absorbed

- Ivermectin : 0.2mcg/kg day one and repeat in one week
- Spinosad 0.9%

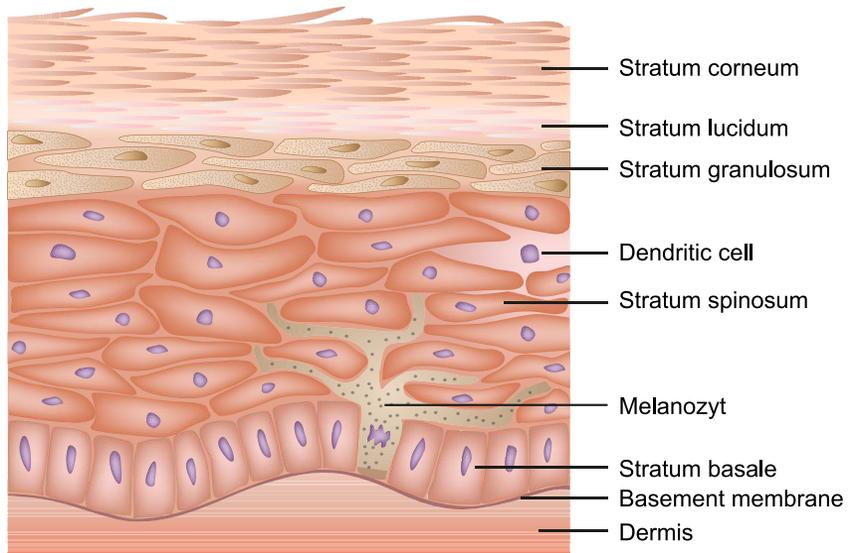
# SPINOSAD 0.9%

- Approved for headlice and scabies: 4y/o & older
  - PG: not systemically absorbed but no studies done in Pg or lactating women
- Does not penetrate the dermis: stay in stratum corneum
- Neuronal overexcitation causing death to insect
- Apply Hairline to toe: allow to dry for 10 minutes
- Wash off in 6 hours
- Complete clinical clearance 78.1%
- SE: skin irritation and dry skin

# BULLOUS PEMPHIGOID

- Autoantibodies against components of hemidesmosomes
- **BP 180 & BP 230**
- Subepidermal blisters with eosinophilic infiltrate
- Occurs at DEJ- Epidermis "lifts" off

# Structure of the Epidermis



Stratum corneum

Desosomes

Hemidesomes

Basement membrane

# BULLOUS PEMPHIGOID

- More common in elderly
  - 70 - 80y/o
- Urticarial plaques (20%)
  - Pts present very itchy
- **Large tense Bullae**
  - **Subepidermal blisters**- entire epidermis is pulled off dermis
- Trunk & extremities
- Associated with neurological Disorders



# WORK- UP FOR PEMPHIGOID

- Biopsy H&E
- Biopsy DIF- perilesional
  - **NOT LOWER EXTREMITY**
- Serum – BP 180 and 230 antibodies
- Review **ALL medications**
- Exam trunk, extremities, scalp, buttocks

# DRUGS CAUSE BP

F- Furosemide (Lasix)

A- ACE (Captopril)

N- Penicillamine

G- Gliptins DIABETES MEDICATIONS- DPP-4i Inhibitors/Gliptins

- SITAGLIPTIN (Januvia)
- LINAGLIPTIN ( Tradjenta)
- SAXAGLIPTIN ( Onglyza)

# BULLOUS PEMPHIGOID



# BULLOUS PEMPHIGOID



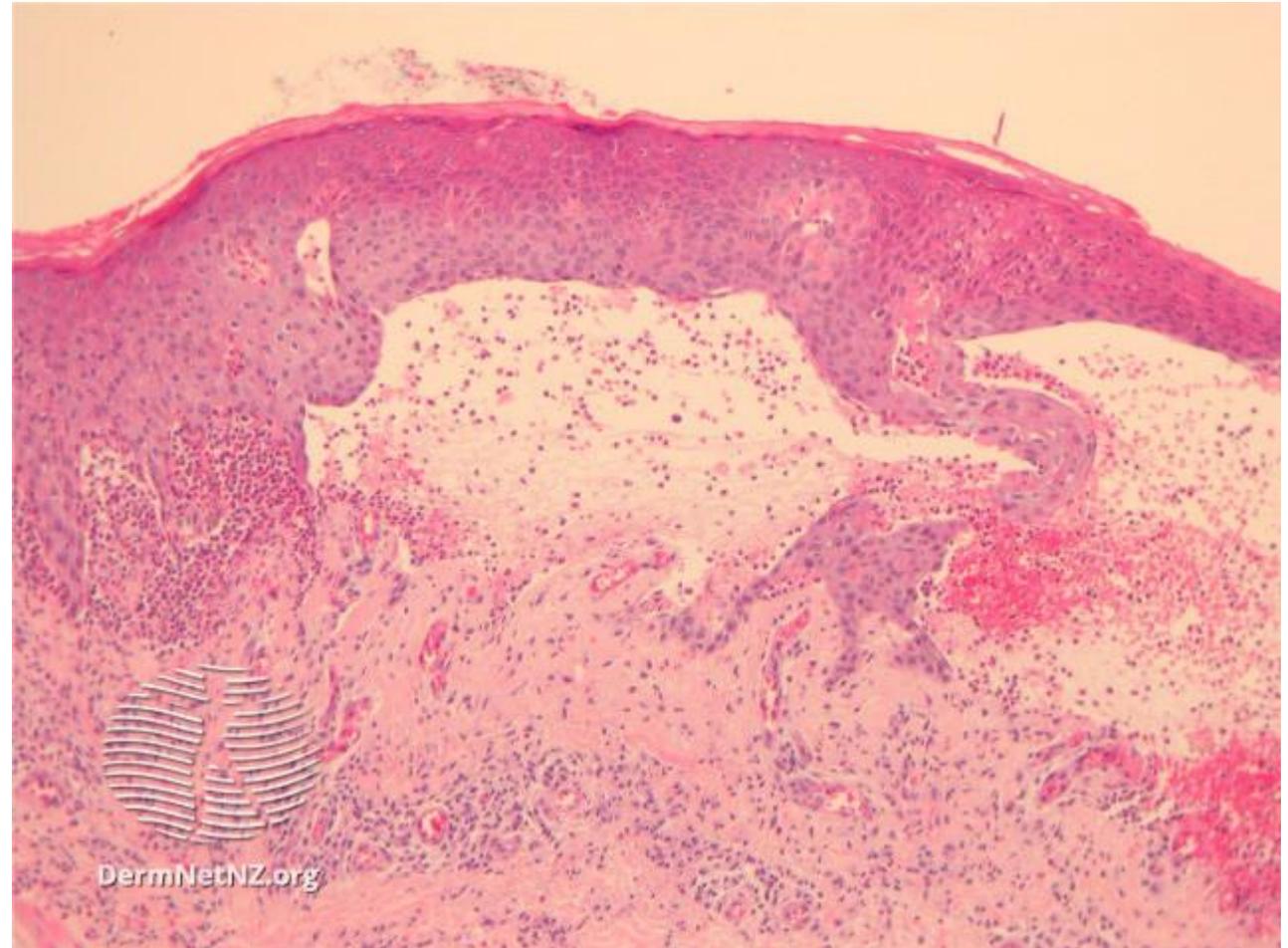
# BULLOUS PEMPHIGOID



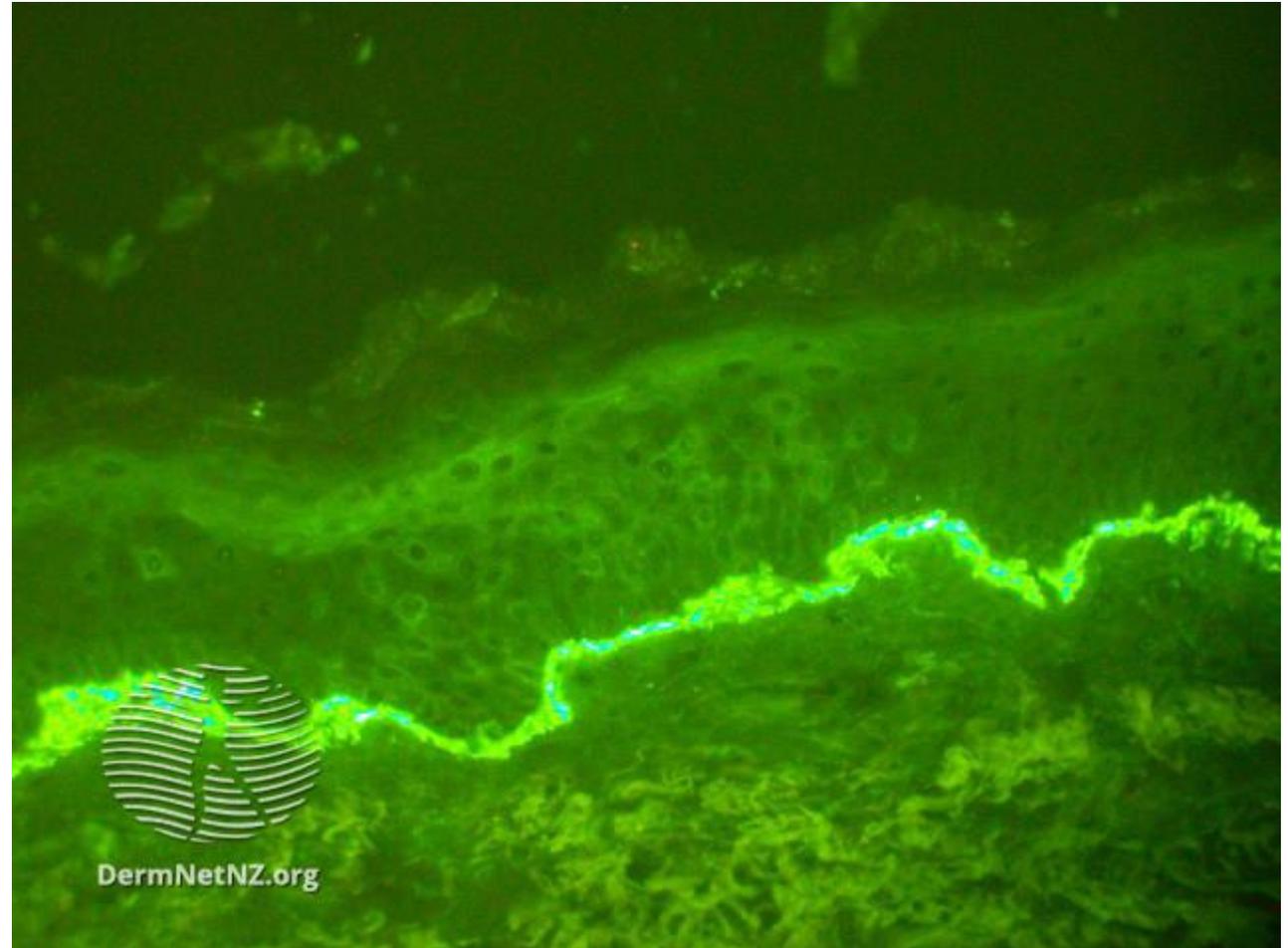
# BULLOUS PEMPHIGOID

Eosinophil Rich

Subepidermal Split



Linear IgG and/or C3 at BASEMENT  
membrane



# TXS FOR BP

- Doxycycline
- Topical Steroids- high potency
- Prednisone
- Mycophenolate
- Azathioprine
- Dapsone

# DUPIBUMAB FOR BP

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ORIGINAL ARTICLE | VOLUME 83, ISSUE 1, P46-52, JULY 01, 2020

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## Dupilumab as a novel therapy for bullous pemphigoid: A multicenter case series

[Rana Abdat, MD](#) • [Reid A. Waldman, MD](#) • [Valeria de Bedout, MD](#) • ... [Anna Nichols, MD, PhD](#) • [Marti Rothe, MD](#) • [David Rosmarin, MD](#)   • [Show all authors](#)

Published: March 13, 2020 • DOI: <https://doi.org/10.1016/j.jaad.2020.01.089> •  Check for updates

 PlumX Metrics

Key words

References

## Background

Bullous pemphigoid (BP) is an autoimmune blistering disorder occurring mostly in the elderly that lacks adequate treatments.

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 COLUMBIA UNIVERSITY DEPARTMENT OF DERMATOLOGY

# TXS FOR BP

- Doxycycline
  - 100mg BID
  - +/- Niacinamide
- Prednisone
  - 0.5-1.0mg/kg/day

# DERMATITIS HERPETIFORMIS



# DERMATITIS HERPETIFORMIS

- Cutaneous manifestation of Celiac DZ
  - Approx 10% known to have DH
- IgA granular layer
- Packed neutrophils in dermal papillae
- IgA antibodies against gliadin cross linked to tissue transglutaminase

- 
- More Common Caucasian
  - Male ( slight)
  - 40-50 y/o
  - Associated Dx
    - DM
    - Autoimmune thyroid dz
    - Connective Tissue dz ( Sjogren)

# DERMATITIS HERPETIFORMIS

- VERY ITCHY
- Itchy clustered vesicles on erythematous base
- Elbows, extensor surfaces, buttocks
- Higher risk of T-cell Lymphoma and Thyroid dz

Am J Clin Dermatol.2021 May;22(3):329-338

Front Immunol.2019 Jun 11;10:1290





# WORK- UP FOR DERMATITIS HERPETIFORMIS

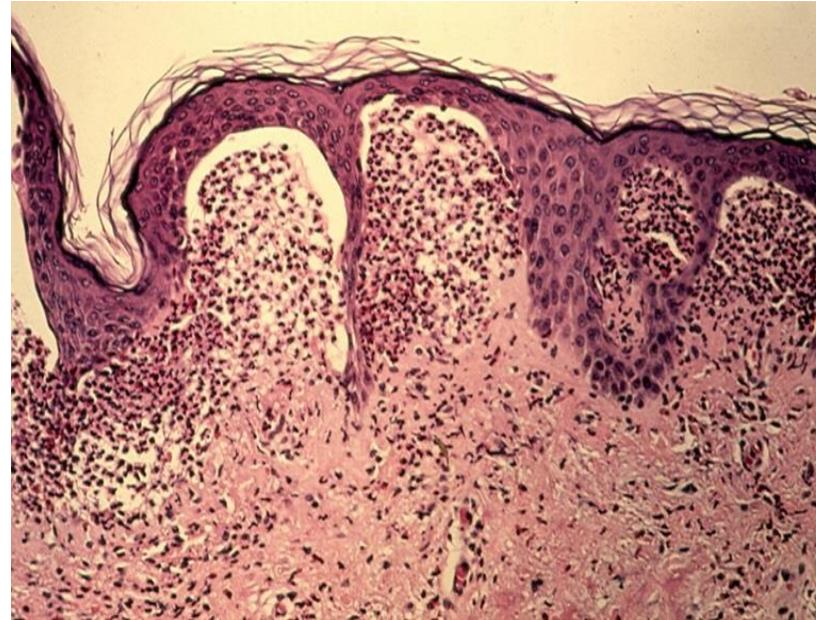
- Biopsy H&E
- Biopsy DIF- perilesional  
**pathognomonic**
- Serum – anti-tissue transglutaminase (TTG/IGA) & anti endomysial antibodies
- Review ALL medications
- Exam trunk, buttocks, extensors surfaces

# BIOPSY FOR DERMATITIS HERPETIFORMIS

- H&E
- DIF
  - Granular IgA within dermal papillae

# DERMATITIS HERPETIFORMIS

Neutrophilic infiltrate

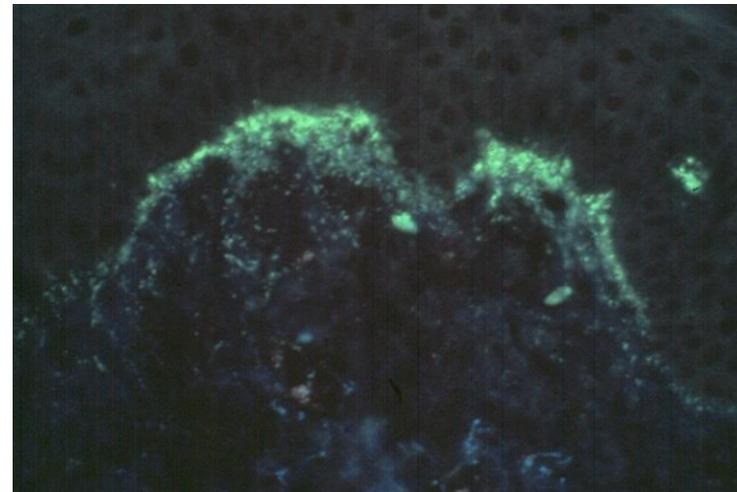


Slide courtesy of Dr. Christopher Crotty

# DERMATITIS HERPETIFORMIS

Granular Deposition IgA

Along BASEMENT MEMBRANE



Slide courtesy of Dr. Christopher Crotty

# TX FOR DERMATITIS HERPETIFORMIS

- **GLUTEN FREE DIET**

- Dapsone
  - Start 25-50mg daily and titrate to 100mg/daily
  - Check G6PD
  - Baseline CBC, CMP, recheck at 2weeks then q3-6 months
  - Side Effects: HA, hemolytic anemia, peripheral neuropathy, dapsone hypersensitivity syndrome

Am J Clin Dermatol.2021 May;22(3):329-338  
Clin Exp Dermatol.2019 Oct;44(7):728-731

# GLUTEN FREE DIET

**B- Barley**

**R- Rye**

**O- Oats\*** (oats pure and Not contaminated with wheat, barley, or rye can be consumed)

**W- Wheat**

# PITYRIASIS RUBRA PILARIS

- Small pustules, pink scaly patches, reddish brown papules
- Palmar/plantar hyperkeratosis
- Common 1<sup>st</sup> 5 years of life OR early 50s
- Men = Women
- Starts on neck and trunk, spreads to extremities
- **ISLANDS OF SPARING**
- **ITCHY**
  
- **Unknown etiology**

# PITYRIASIS RUBRA PILARIS





# HYPERKERATOSIS HANDS AND FEET



# PRP TX

- Systemic steroids-short term
- Topical Corticosteroids (clobetasol/Halbetasol)
- Isotretinoin 0.5mg-1 mg/kg/day
- Acitretin 10-75mg
- Methotrexate 2.5-30mg
- NBUVB in combo with Retinoid
- Ustuekinumab
- Secukinumab

# ATOPIC DERMATITIS



# ATOPIC DERMATITIS

- Chronic Inflammatory skin condition
- 16 million in US/2.6 million uncontrolled
  - 20% children, 10% adults
- 50%- 60% appear in first year of life and usually within 1<sup>st</sup> 5 yrs
- Adults: 1 in 4 develop in adulthood
- History of accompanied asthma and hay fever

# ATOPIC DERMATITIS

- Multifactorial Causes
  - Genetic Filaggrin Mutation
  - Immune Dysfunction/ IL-4 IL-13
  - Itch/Scratch Cycle
  - Epidermal Barrier Dysfunction
- Essential Features
  - **Pruritus**
  - Extensor surfaces (infants) flexural surfaces (child) Face, scalp and hands for adults: Eczema features/typical morphology
  - Waxing and Waning hx: Chronic History/relapsing

# ATOPIC DERMATITIS POLYMORPHIC

- Erythematous papules and plaques
- Lichenoid patches
- Nummular patches
- Follicular papules/patches
- Prurigo like papules

# ATOPIC DERMATITIS TOPICAL TX

- **Topical moisturizers and Emollients**
- **Gentle Soap**
- Topical Corticosteroids
- Topical calcineurin inhibitors: 2<sup>nd</sup> line
- Topical Crisaborole
- Topical Ruxolitinib
- NBUVB- 2<sup>nd</sup> line treatment

## **MAINTENANCE**

# MOISTURIZERS/EMOLLIENTS

- Combat Xerosis and trans epidermal water loss
  - \*\*\*\***apply after bathing**
- Apply at least once to twice daily
  - No studies proven how many times a day most effective
- Ointments>Creams > Lotions
  - Ointments less preservatives & highest ratio of lipids
  - Lotions higher water content, can evaporate and less ideal
- Free of additives, fragrances, perfumes, and sensitizing agents
- Main Primary Treatment for Mild Disease
  - **USE IN ALL SEVERITIES OF DISEASE**

# BATHING

- Hydrate skin, remove scale, crust, allergens, pollutants
- **MOISTURIZE with Ointment or Cream AFTER BATHING**
- Once daily for 5 – 10 min Warm water
- Gentle NONSOAP Cleansers
  - low pH, hypoallergenic
  - Soap are surfactants and strip natural moisturizers
- Wet Wraps
  - Increase penetration of topical agent
  - Apply moisturizer or low dose steroid
  - Apply damp cotton soft pajamas
  - Apply dry pajamas over
  - Keep on for 12 hours

# TOPICAL CORTICOSTEROIDS

- Decrease the Inflammatory response- suppress release of proinflammatory cytokines
- Apply twice daily for two to three weeks: until inflammatory lesions resolved
- Flares- Mid to high Potency
- Low- face, neck, axillae, groin
- Side Effects
  - Skin atrophy
  - Purpura
  - Telangiectasia
  - Striae
  - Focal hypertrichosis
  - Acneiform/rosacea eruptions

# TOPICAL CORTICOSTEROIDS

Class I Very High Potency:	Clobetasol 0.05%
Class II High Potency:	Fluocinonide 0.05%
Class III-IV Medium:	Triamcinolone 0.1%
Class V Medium Low:	Fluticasone 0.005%
Class VI Low:	Desonide 0.05%
Class VII Very Low:	Hydrocortisone 2.5%

\*\*\*\* Can vary depending on graph/chart

# TOPICAL CALCINEURIN INHIBITORS

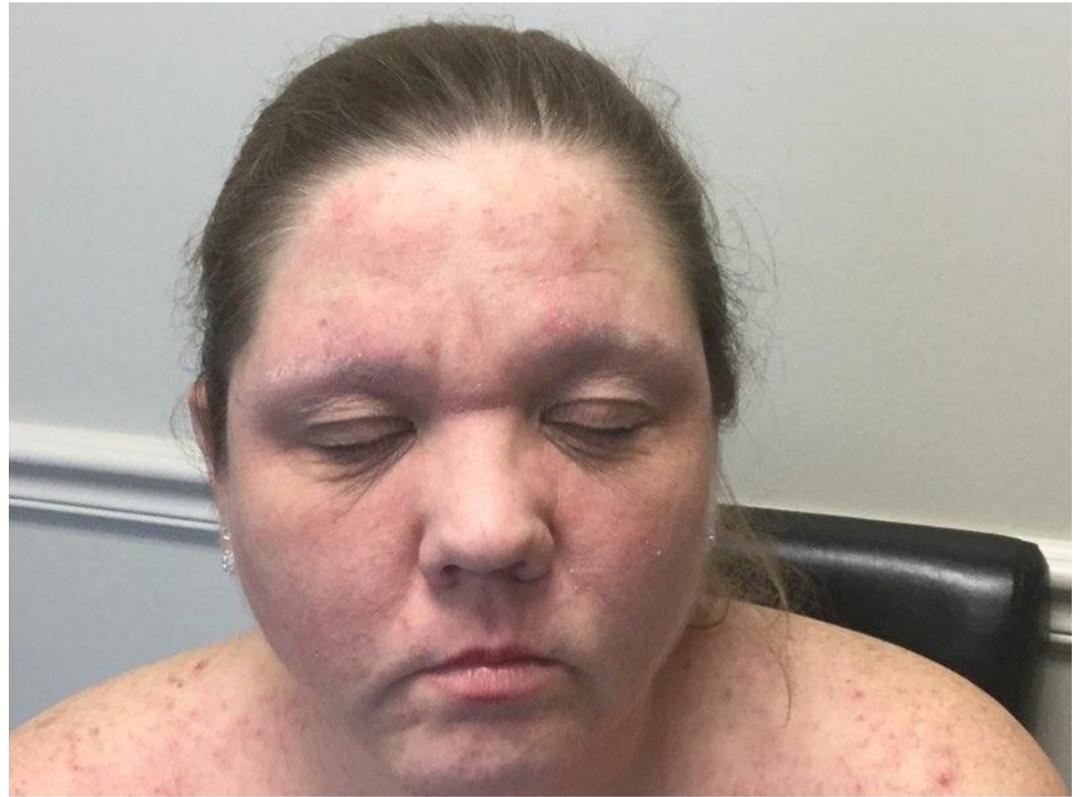
- Tacrolimus 0.03%/0.1% & Pimecrolimus 1%
- Inhibit calcineurin dependent T-cell activation-blocking production of proinflammatory cytokines
- 2<sup>nd</sup> line therapy
- Short term or long term use
- No risk of skin atrophy
  - Ok to apply skin folds, eyelids, face
- SE: stinging and burning
- Black Box
  - Risk of skin cancer and Lymphoma: seen with oral
  - 10 year surveillance studies fail to find evidence for this

# ATOPIC DERMATITIS SYSTEMIC TX MODERATE OR SEVERE DZ

- Methotrexate
- Cyclosporine ( short term)
- Mycophenolate
  
- Dupilumab (IL4/IL13)
  - Approved down to 6M
- Tralokinumab (IL13)
  - 18 y/o
- Upadacitinib ( JAK 1):15-30mg daily
  - 12y/o to adults
- Abrocitinib ( JAK 1): 100mg
  - 18 y/o older

# BIOLOGICS

- Dupilumab
  - Binds to IL-4alpha subunit: Both IL4 and IL-13
  - Targeted immunomodulator
  - Dosing either Monthly or every 2 weeks
  - 6m to adults
- Tralokinumab
  - Neutralizes IL-13
  - 12y/o to adults
  - Dosed q monthly
- Lebrikizumab
  - Inhibits the dimerization of IL-13 alpha 1
  - Dosed every 4 weeks
  - Currently in Phase III trials



# POST DUPIIUMAB



# PRE MYCOPHENOLATE





# POST MYCOPHENOLATE



Pre Mycophenolate



Post Mycophenolate



# ATOPIC DERMATITIS

Pre Oral JAK



Post Oral JAK



# ATOPIC DERMATITIS

Pre Oral JAK



Post Oral JAK



# NOT RECOMMENDED FOR AD

- Oral antibiotics without proven positive culture
- Skin prick testing or blood tests for routine evaluation of eczema
  - Asthma is a stronger risk factor for food allergy than AD
- Probiotics (limited evidence to support their treatment)
- Systemic Steroids for continuous or chronic management
  - Can have rebound flares and increased dz severity upon discontinuation
  - HTN, glucose intolerance, Adrenal suppression, gastritis, decreased bone density



# LICHEN PLANUS

1. Planar: Flat
2. Purple
3. Pruritic
4. Papular
5. Polygonal: non circular

# LICHEN PLANUS



# LICHEN PLANUS SOC



# LICHEN PLANUS



# LICHEN PLANUS

- Scalp, Flexor wrists, thighs, dorsal hands, shins
- Sometimes mucosal involvement
  - Wickham's striae
- Lasts approx 1 yr or resolves spontaneously
- Association with Hepatitis C ( 1-20%)
- Drug Related
  - Ace Inhibitors
  - Thiazide diuretics (HCTZ)
  - Antimalarials
  - Beta blockers
  - TNF inhibitors
  - quinidine



# LICHEN PLANUS TX

- Topical corticosteroids
- Topical tacrolimus
- NBUVB
- IL steroids
- Cyclosporine
- Mycophenolate
- Apremilast



# URTICARIA

- Edematous pink to red wheals
- Central clearing
- Pruitis
- Wheals last < 24 hours
- Acute Vs Chronic

# URTICARIA



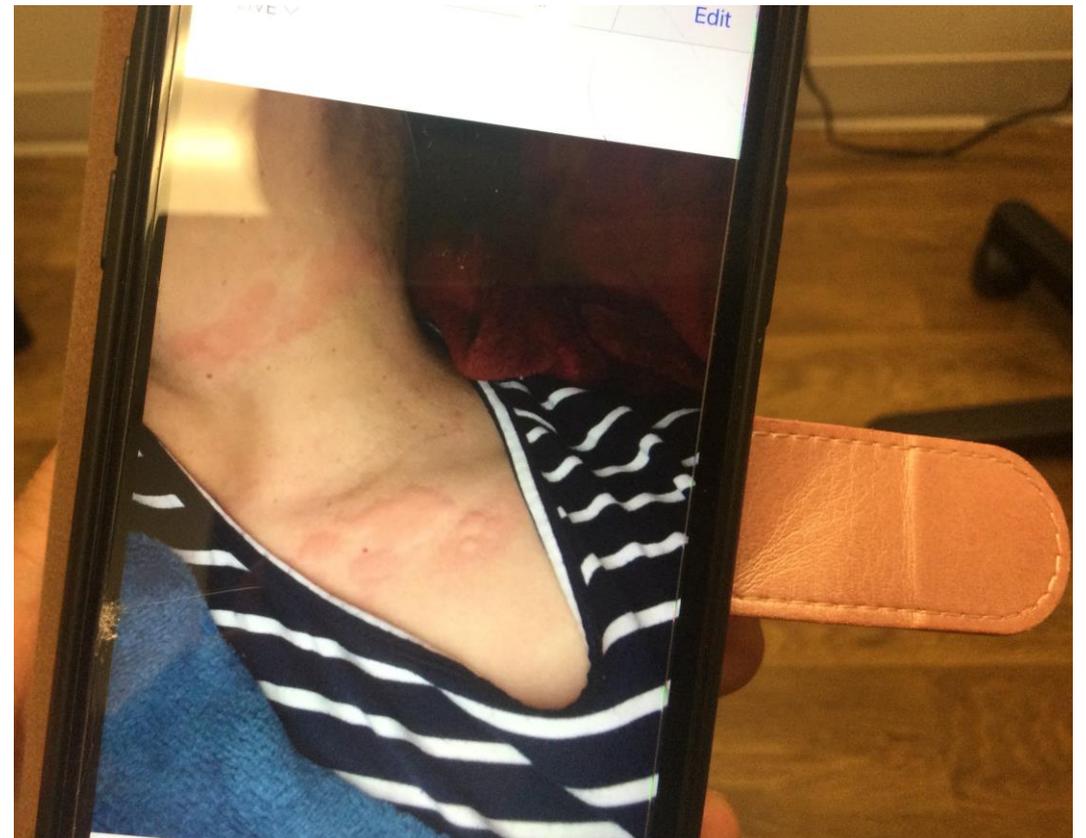
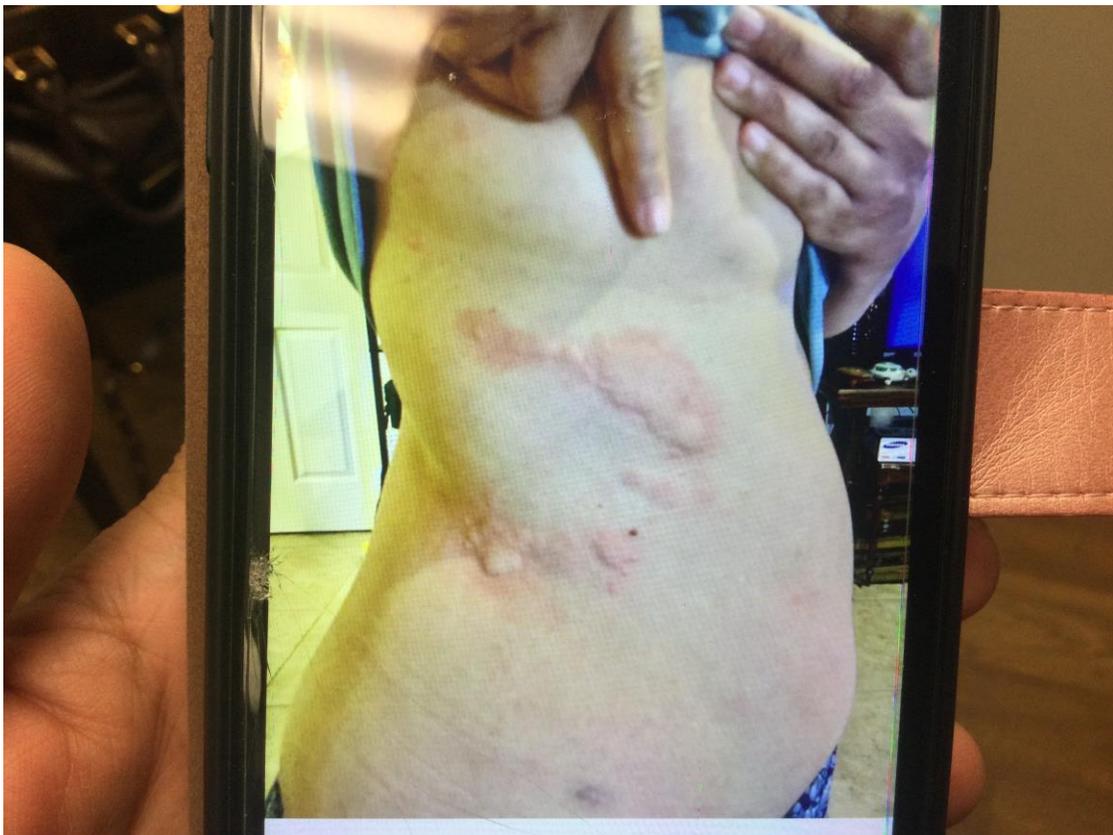
# URTICARIA



# URTICARIA



# URTICARIA



# ACUTE URTICARIA

- Last days to 6 weeks
- Most common in Children
- Infection (URI/streptococcal)) 40%
- Drug 10% (PCN)
- Food <1%
- Idiopathic 50%

# CHRONIC URTICARIA

- Last greater than 6 weeks
- Females 2:1
- 4<sup>th</sup> decade of life more common
- Autoimmune (50%)
- Chronic Infection (5%)
- Idiopathic (50%)

# URTICARIA TX

- Acute : H1 antihistamine 2-4 times a day
  - Second generation;
    - Cetirizine
    - Levocetirizine
    - Famotidine
    - Loratadine
    - Acrivastine
    - Azelastine

# URTICARIA TX CHRONIC

- H1 antihistamines second generation
- Cyclosporine
- Omalizumab
  - Must have an Epi Pen



# ID REACTION AUTOSENSITIZATION DERMATITIS

- Widespread delayed dermatitis following days after a localized dermatitis
  - Allergic contact Dermatitis: Nickel
  - Stasis Dermatitis
  - Tinea Infections: Tinea Capitis
- Rebound after steroid taper
- Tx: oral and topical steroids

# TINEA MANUM/ID REACTION

Tinea



ID Reaction



# FIRE ANTS/ID REACTION





# TINEA CORPORIS/ID REACTION

Tinea



ID Reaction





# PSORIASIS

- Well demarcated Thick silvery plaques
- Elbows, knees, umbilicus scalp, gluteal cleft, nails
- Itchy or burning
- Plaque
- Guttate: Strep
- Inverse
- Pustular
- Palmoplantar
- Psoriatic arthritis: 30% will develop

# PSORIASIS



# PSORIASIS TX

- Topicals
  - Topical corticosteroids
    - Class I : Clobetasol
    - Class II: halbetasol/betamethasone, Triamcinolone
    - Class III: Fluocinolone
    - Class IV: hydrocortisone
- Topicals: Non-steroidal
  - Tapiranol
  - Roflumilast
  - Calcipotriene
- NBUVB
  - Extrac Laser

# PSORIASIS TX SYSTEMICS

- Methotrexate
- Cyclosporine: max 1 yr
- Apremilast
- Acitretin
- Deucravacitinib (JAK)
- Biologics
  - TNF Inhibitors
  - IL12/23
  - IL 17
  - IL 23

# BLOOD WORK BIOLOGICS

- QuantiFERON/PPD
  - TNF Inhibitors
  - IL12/23
  - IL 17
  - IL 23
  - JAK
- Hepatitis
- Lipids: JAK
- HIV

# PSORIASIS

Pre Biologic



Post Biologic



# PSORIASIS

Pre Biologic



Post Biologic



# PSORIASIS

Pre Biologic



Post Biologic



# PSORIASIS

Pre Biologic



Post Biologic



# STASIS DERMATITIS

- Yellow, crusting, erythematous dermatitis
  - Weepy, dry, scaling or lichenified
- Lower legs favored
- **BILATERAL**
- Pts with history of edema, venous insufficiency, DVT

# STASIS DERMATITIS



# STASIS DERMATITIS



# STASIS DERMATITIS

Pre TX



Post TX



# STASIS DERMATITIS

- Topical corticosteroid
  - Clobetasol BID for two weeks or Triamcinolone BID for two weeks
- Support Compression Stockings: 20-30 mmHg
  - Ames Walker
- Elevation
- Horse Chesnutt: Venous Insufficiency

# PRURIGO NODULARIS

- Pruritis + Nodules
  - Itch greater than 6 weeks
- Discrete, firm papulonodular lesions: 3-20mm
- Results of chronic scratching or picking
  - Dysregulation neuroimmune interactions plus itch scratch cycle
- Favor Extremities, Upper Back, and Buttocks= Accessible areas
- Different Stages
  - Lichenification
  - Excoriations
  - Ulceration

# PRURIGO NODULARIS



# PRURIGO NODULARIS



# PRURIGO NODULARIS





# PN COMORBIDITIES

- Liver Dysfunction
- Renal Dysfunction
- Thyroid Dysfunction
- DM
- HIV
- Hepatitis B&C
- Malignancy

# PN TX

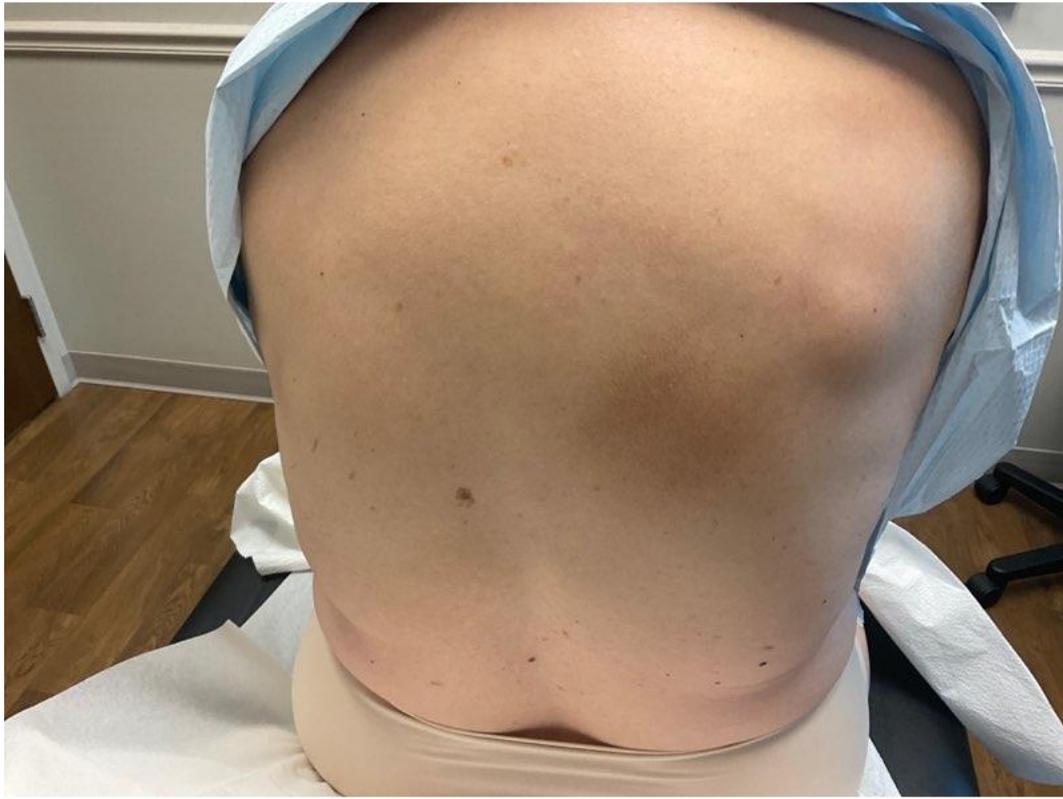
- **DUPILUMAB: ONLY FDA APPROVED**
- Topical Corticosteroids
- IL Corticosteroids
- Phototherapy
- Antipruritic
- Gabapentin
- Methotrexate
- Mycophenolate
- Liquid Nitrogen

# NOTALGIA PARESTHETICA

- Localized Itching to shoulder/scapula and vertebral columns
  - Burning/Tingling/Numbness
- Hyperpigmentated macule/patch to upper back
- Women > Men: Mid 50s
- Related To neck injury or SNR impingement: questionable

# NOTALGIA PARESTHETICA







# NOTALGIA PARESTHETICA TX

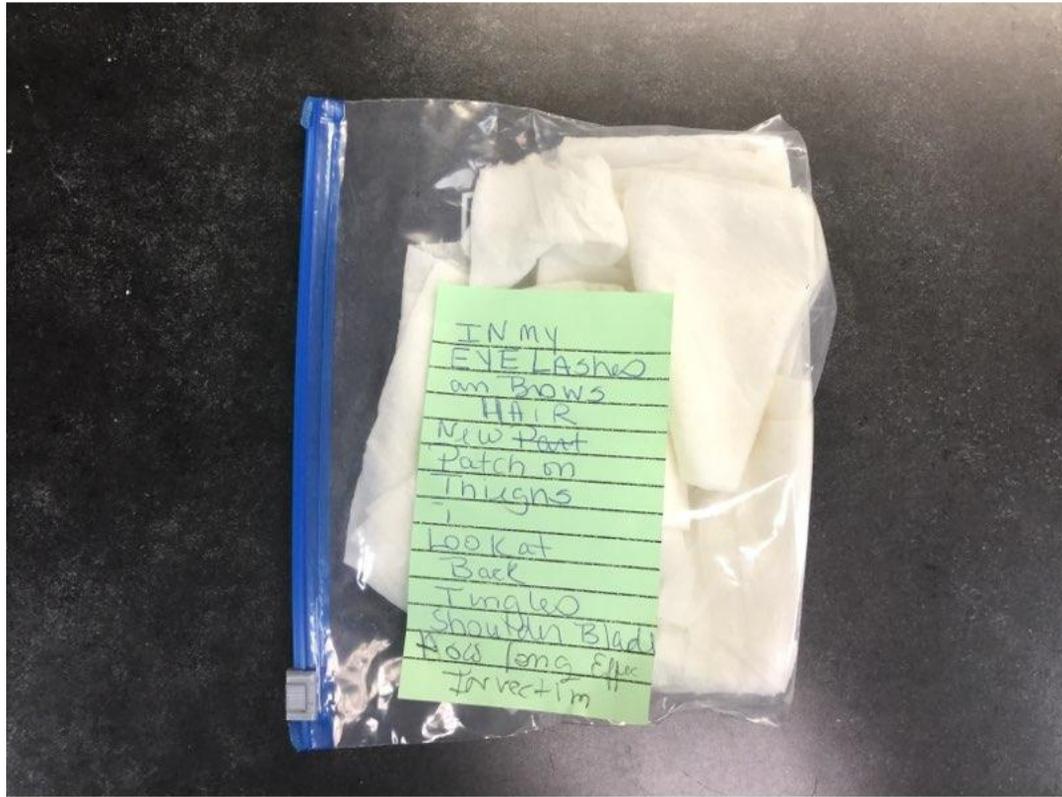
- Topical Capsaicin
- TCS and Tacrolimus
- Gabapentin
- Transcutaneous Electrical Muscle stimulation
- IL Kenalog and Botulinum toxin A

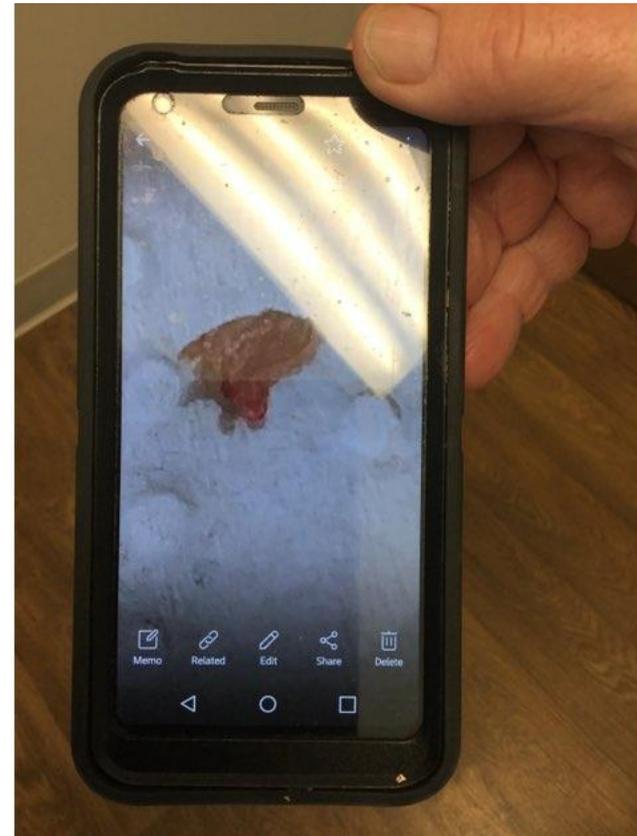
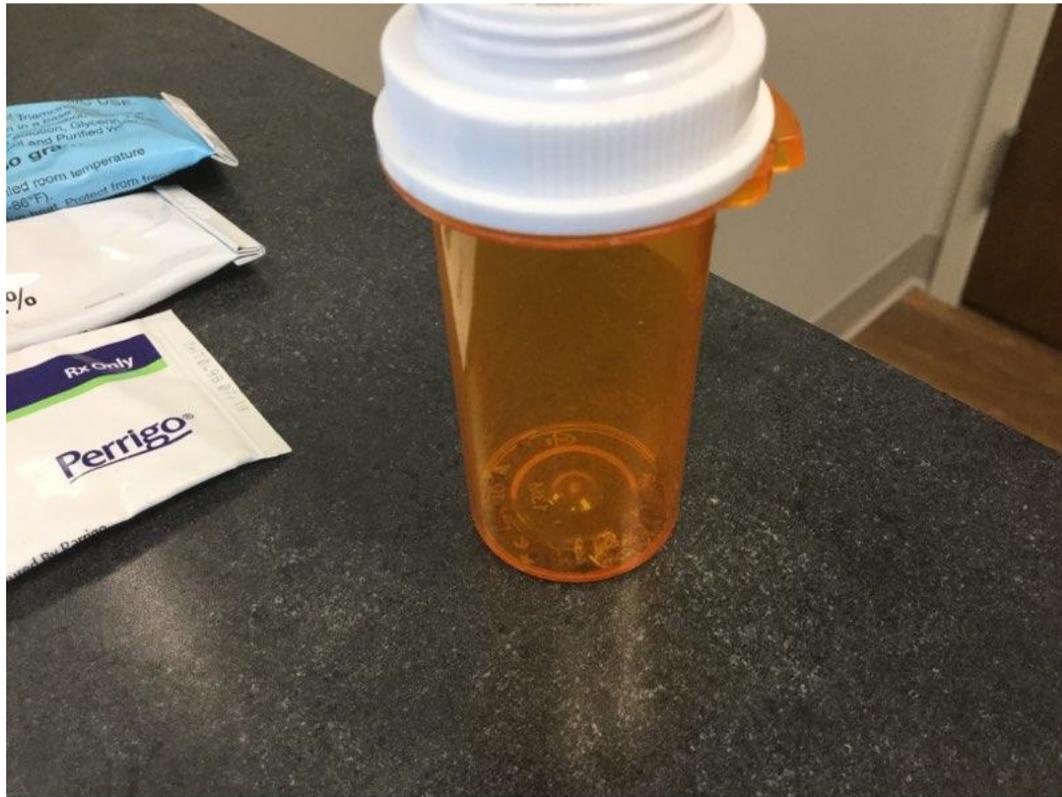
# DELUSIONS OF PARASITOSIS “MORGELLONS DISEASE”

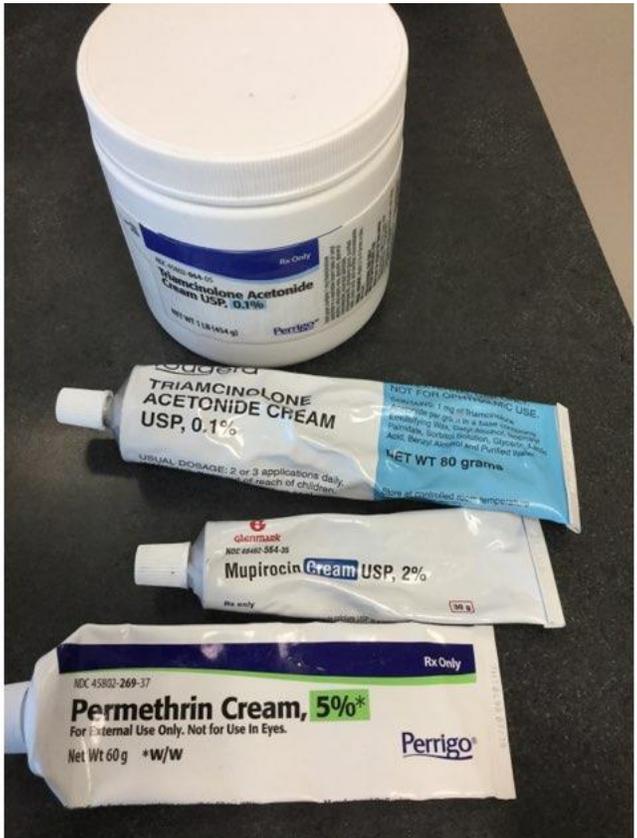
- Fixed and False belief of being infected with parasites
- Mid 50s- 60s, Women > Men
- Sensation of crawling, biting, stinging, or pruritis
- Excoriations, prurigo nodules, or ulceration
- Pts bring in bits of string, skin, lint as evidence

# DELUSIONS OF PARASITOSIS

- Comorbid Disease
  - Depression (74%)
  - Substance abuse (24%)
  - Anxiety (20%)
- Pts bring in Materials Collected
- Pts have seen many Providers
- Pt have had Multiple prescriptions
  - Antibiotics, Topical Steroids, Antihistamines, Antiparasitic







Rx Only  
Mometasone Acetonide Cream USP, 0.1%  
Perrigo

TRIAMCINOLONE ACETONIDE CREAM USP, 0.1%  
NET WT 80 grams  
Perrigo

Mupirocin Cream USP, 2%  
Perrigo

Permethrin Cream, 5%\*  
For External Use Only. Not for Use In Eyes.  
Net Wt 60g \*w/w  
Perrigo





# DELUSIONS OF PARASITOSIS TX

- Skin biopsy- prove no findings
- May need psychiatry referral
- Pimozide 1-2 mg daily
- Risperidone 2-5 mg daily: 1<sup>st</sup> line
- Olanzapine and Aripiprazole limited evidence compared to Risperidone



# PIMOZIDE

- No Longer 1<sup>st</sup> line
- Sedation
- Rigidity
- Visual Disturbances
- Prolonged QT interval

# RISPERIDONE

- Baseline Lipid panel, and Fasting glucose
- Starting dose 0.5mg and increase to 4mg
- Results in 1-2 weeks
- SE: extrapyramidal symptoms
  - More common in elderly

- 
- “ I believe you are suffering”
  - “I would like to help you”
  - ” You are not crazy”
  - “This medication will help decrease the crawling sensations”
  - Schedule visit at end of day- spend more time with patient

Pre Treatment



On Treatment



# LICHEN SIMPLEX CHRONICUS

- Skin color or hyperpigmented plaques and licheinification
- Habitual scratching and rubbing
- Posterior neck, ankles, anogenital region, extensor forearms or shins

LSC





# LSC TX

- Topical corticosteroids
- Oral antihistamine
- IL Kenalog injections
  
- Daily moisturizer: Cream

# LICHEN SIMPLEX CHRONICUS

Pre TX



Post TX



# LICHEN SIMPLEX CHRONICUS



# TRANSIENT ACANTHOLYTIC DERMATOSIS “GROVER’S DZ”

- Papulovesicles or Keratotic plaques, flesh to brown colored
- Trunk (84-99%) upper and lower extremities ( 60%)
- Men > Women
- Exacerbated with Heat, Moisture, Sweating
- Itchy

# GROVER'S PHOTO



# GROVER'S



# GROVER'S DZ TREATMENT

- Topical Corticosteroids
- Topical Vitamin D
- Oral antihistamines
- Oral steroids
- Oral Isotretinoin/Acitraetin
- NBUVB



**Thank You!**

# REFERENCES

- Campbell EH, Elston DM, Hawthorne JD, Beckert DR. Diagnosis and management of delusional parasitosis. *J Am Acad Dermatol*. 2019 May;80(5):1428-1434.
- Eastham AB. Pityriasis Rubra Pilaris. *JAMA Dermatol*. 2019 Mar 1;155(3):404.
- Tziotzios C, Lee JYW, Brier T, Saito R, Hsu CK, Bhargava K, Stefanato CM, Fenton DA, McGrath JA. Lichen planus and lichenoid dermatoses: Clinical overview and molecular basis. *J Am Acad Dermatol*. 2018 Nov;79(5):789-804.
- Sidbury R, Davis DM, Cohen DE, Cordoro KM, Berger TG, Bergman JN, Chamlin SL, Cooper KD, Feldman SR, Hanifin JM, Krol A, Margolis DJ, Paller AS, Schwarzenberger K, Silverman RA, Simpson EL, Tom WL, Williams HC, Elmets CA, Block J, Harrod CG, Begolka WS, Eichenfield LF; American Academy of Dermatology. Guidelines of care for the management of atopic dermatitis: section 3. Management and treatment with phototherapy and systemic agents. *J Am Acad Dermatol*. 2014 Aug;71(2):327-49.

# REFERENCES

- Elmetts CA, Korman NJ, Prater EF, Wong EB, Rupani RN, Kivelevitch D, Armstrong AW, Connor C, Cordoro KM, Davis DMR, Elewski BE, Gelfand JM, Gordon KB, Gottlieb AB, Kaplan DH, Kavanaugh A, Kiselica M, Kroshinsky D, Lebwohl M, Leonardi CL, Lichten J, Lim HW, Mehta NN, Paller AS, Parra SL, Pathy AL, Siegel M, Stoff B, Strober B, Wu JJ, Hariharan V, Menter A. Joint AAD-NPF Guidelines of care for the management and treatment of psoriasis with topical therapy and alternative medicine modalities for psoriasis severity measures. *J Am Acad Dermatol*. 2021 Feb;84(2):432-470.
- Kaushik SB, Lebwohl MG. Psoriasis: Which therapy for which patient: Psoriasis comorbidities and preferred systemic agents. *J Am Acad Dermatol*. 2019 Jan;80(1):27-40.
- Kaushik SB, Lebwohl MG. Psoriasis: Which therapy for which patient: Focus on special populations and chronic infections. *J Am Acad Dermatol*. 2019 Jan;80(1):43-53.

# REFERENCES

- Sundaresan S, Migden MR, Silapunt S. Stasis Dermatitis: Pathophysiology, Evaluation, and Management. *Am J Clin Dermatol*. 2017 Jun;18(3):383-390.
- Williams KA, Huang AH, Belzberg M, Kwatra SG. Prurigo nodularis: Pathogenesis and management. *J Am Acad Dermatol*. 2020 Dec;83(6):1567-1575.
- Huang AH, Williams KA, Kwatra SG. Prurigo nodularis: Epidemiology and clinical features. *J Am Acad Dermatol*. 2020 Dec;83(6):1559-1565.
- Sidbury R, Kodama S. Atopic dermatitis guidelines: Diagnosis, systemic therapy, and adjunctive care. *Clin Dermatol*. 2018 Sep-Oct;36(5):648-652.
- Reich A, Kwiatkowska D, Pacan P. Delusions of Parasitosis: An Update. *Dermatol Ther (Heidelb)*. 2019 Dec;9(4):631-638.

# REFERENCES

- Hon KL, Leung AKC, Ng WGG, Loo SK. Chronic Urticaria: An Overview of Treatment and Recent Patents. *Recent Pat Inflamm Allergy Drug Discov.* 2019;13(1):27-37.
- Radonjic-Hoesli S, Hofmeier KS, Micaletto S, Schmid-Grendelmeier P, Bircher A, Simon D. Urticaria and Angioedema: an Update on Classification and Pathogenesis. *Clin Rev Allergy Immunol.* 2018 Feb;54(1):88-101.
- Ju T, Vander Does A, Mohsin N, Yosipovitch G. Lichen Simplex Chronicus Itch: An Update. *Acta Derm Venereol.* 2022 Oct 19;102:adv00796.
- Weaver J, Bergfeld WF. Grover disease (transient acantholytic dermatosis). *Arch Pathol Lab Med.* 2009 Sep;133(9):1490-4.

# REFERENCES

- Gunning K, Kiraly B, Pippitt K. Lice and Scabies: Treatment Update. *Am Fam Physician*. 2019 May 15;99(10):635-642.
- Heenan PJ, Quirk CJ. Transient acantholytic dermatosis. *Br J Dermatol*. 1980 May;102(5):515-20.
- Parsons JM. Transient acantholytic dermatosis (Grover's disease): a global perspective. *J Am Acad Dermatol*. 1996 Nov;35(5 Pt 1):653-66; quiz 667-70.
- Aldana PC, Khachemoune A. Grover disease: review of subtypes with a focus on management options. *Int J Dermatol*. 2020 May;59(5):543-550.
- Howard M, Sahhar L, Andrews F, Bergman R, Gin D. Notalgia paresthetica: a review for dermatologists. *Int J Dermatol*. 2018 Apr;57(4):388-392.

# REFERENCES

- Krajewski P, Szepietowski JC. Notalgia paresthetica treated with low dose of gabapentin: Case report and literature review. *Dermatol Ther.* 2020 Mar;33(2):e13242.
- Shumway NK, Cole E, Fernandez KH. Neurocutaneous disease: Neurocutaneous dysesthesias. *J Am Acad Dermatol.* 2016 Feb;74(2):215-28; quiz 229-30.
- Montagnon CM, Tolkachjov SN, Murrell DF, Camilleri MJ, Lehman JS. Subepithelial autoimmune blistering dermatoses: Clinical features and diagnosis. *J Am Acad Dermatol.* 2021 Jul;85(1):1-14.
- Montagnon CM, Lehman JS, Murrell DF, Camilleri MJ, Tolkachjov SN. Subepithelial autoimmune bullous dermatoses disease activity assessment and therapy. *J Am Acad Dermatol.* 2021 Jul;85(1):18-27. doi: 10.1016/j.jaad.2020.05.161. Epub 2021 Mar 5. PMID: 33684494.

# REFERENCES

- Abdat R, Waldman RA, de Bedout V, Czernik A, Mcleod M, King B, Gordon S, Ahmed R, Nichols A, Rothe M, Rosmarin D. Dupilumab as a novel therapy for bullous pemphigoid: A multicenter case series. *J Am Acad Dermatol*. 2020 Jul;83(1):46-52.
- Reunala T, Hervonen K, Salmi T. Dermatitis Herpetiformis: An Update on Diagnosis and Management. *Am J Clin Dermatol*. 2021 May;22(3):329-338.
- Salmi TT. Dermatitis herpetiformis. *Clin Exp Dermatol*. 2019 Oct;44(7):728-731.
- Newsom M, Bashyam AM, Balogh EA, Feldman SR, Strowd LC. New and Emerging Systemic Treatments for Atopic Dermatitis. *Drugs*. 2020 Jul;80(11):1041-1052.
- Frazier W, Bhardwaj N. Atopic Dermatitis: Diagnosis and Treatment. *Am Fam Physician*. 2020 May 15;101(10):590-598. PMID: 32412211.
- Eichenfield LF, Tom WL, Chamlin SL, Feldman SR, Hanifin JM, Simpson EL, Berger TG, Bergman JN, Cohen DE, Cooper KD, Cordoro KM, Davis DM, Krol A, Margolis DJ, Paller AS, Schwarzenberger K, Silverman RA, Williams HC, Elmets CA, Block J, Harrod CG, Smith Begolka W, Sidbury R. Guidelines of care for the management of atopic dermatitis: section 1. Diagnosis and assessment of atopic dermatitis. *J Am Acad Dermatol*. 2014 Feb;70(2):338-51.

# REFERENCES

- Eichenfield LF, Tom WL, Berger TG, Krol A, Paller AS, Schwarzenberger K, Bergman JN, Chamlin SL, Cohen DE, Cooper KD, Cordoro KM, Davis DM, Feldman SR, Hanifin JM, Margolis DJ, Silverman RA, Simpson EL, Williams HC, Elmets CA, Block J, Harrod CG, Smith Begolka W, Sidbury R. Guidelines of care for the management of atopic dermatitis: section 2. Management and treatment of atopic dermatitis with topical therapies. *J Am Acad Dermatol*. 2014 Jul;71(1):116-32.
- Sidbury R, Tom WL, Bergman JN, Cooper KD, Silverman RA, Berger TG, Chamlin SL, Cohen DE, Cordoro KM, Davis DM, Feldman SR, Hanifin JM, Krol A, Margolis DJ, Paller AS, Schwarzenberger K, Simpson EL, Williams HC, Elmets CA, Block J, Harrod CG, Smith Begolka W, Eichenfield LF. Guidelines of care for the management of atopic dermatitis: Section 4. Prevention of disease flares and use of adjunctive therapies and approaches. *J Am Acad Dermatol*. 2014 Dec;71(6):1218-33.