2017 NCNP Conference, Nashville

April 21, 8:30-10:30am

Things that go bump!
Diagnosis and treatment of acneiform eruptions

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Disclosures

Eli Lilly

Objectives

1. Attendees will review key morphology to for acneiform eruptions.
2. Discuss distinguishing characteristic for differential diagnoses of acneiform skin eruptions.
3. Discuss important concepts in selecting appropriate pharmacotherapy for acnieform dermatoses.

Acneiform eruptions

Acne (and beyond)
Rosacea
Seborrheic dermatitis
Folliculitis
Perioral dermatitis

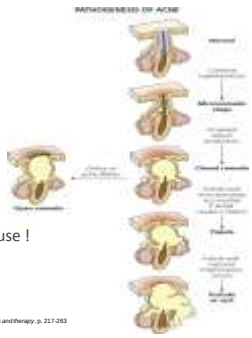
Acne

- THE most common skin condition (50M people yearly)
- Impact
- Primary care and dermatology
- Treatment options
- Referral
- Mimickers

AAD https://www.aad.org/media/stats/conditions
Bhate K, Williams HC. Epidemiology of acne vulgaris. The British journal of dermatology 2013;168:474-85.

Pathogenesis

- Abnormal keratinization (comedones)
- *Propionibacterium acnes* (P. acnes)
- Inflammation
- Sebum production



CONSIDER Therapeutics targeting each cause !

Habif, Thomas P., MD. (2009). Acne, Rosacea, and Related Disorders. *Clinical dermatology: A color guide to diagnosis and therapy*, p. 217-263

Acne vulgaris

Age
- Onset and duration

Lesions
- Comedones, pustules, cysts, nodules
- Scars

Severity
- Based on presence of inflammation, cysts, scarring and body involvement

Types
- Vulgaris, mechanica, excoriee, chloracne, cosmetic, drug-related, conglobata & fulminans

Treatment goals

- Resolve without scarring
- Individualized care plan: type and severity
- Clinician AND patient understand medications
- Adolescent and parental approaches
- Referral in timely manner
- Exacerbating factors (Iodides/bromides, steroids, lithium, phenytoin)
- Psychosocial assessment & realistic expectations

Therapeutic approach to acne

Level of severity	First Line	Alernatives	No or little response
Mild Open & closed comedones	*Treatment & Maintenance*: topical retinoids		
	Topical retinoids Mild cleanser	Change topical retinoid or to azelaic acid Consider: topical antimicrobial, and/or salicylic acid	Check for adherence Increase to moderate level therapy **Refer Dermatology** for: Acne surgery PDT Chemical peels
Moderate Comedones plus inflammatory, papules & pustules Involving face, chest +/or back ***Scarring*** *on face , chest, or back escalates level of treatment*	*Treatment & Maintenance*: topical retinoids and BPO		
	Topical retinoids, BPO **and** Topical antibiotics (monotherapy or combination) and/or Oral antibiotics	Consider: Alt. oral antibiotic, Culture of pustule, In females: Endocrine assessment, oral contraceptives, spironalactone	Assess in 8-12 weeks Check for adherence If persistent inflammation, or evidence of scarring, **REFER** to Dermatology for: intralesional steroids, microdermabrasion, PDT, chemical peels, and oral isotretinoin
Severe Comedones, inflammatory papules, pustules , nodules, cysts, and/or scarring	PCP should initiate treatment including topical retinoids, BPO, oral antibiotics, +/- oral contraceptives **AND** refer to Dermatology.		

Classes of topicals

Cleansers	Mild Cleansers Salicylic Acid Oil control cleansers/astringents	• Use mild cleansers if skin is dry/sensitive or becomes dry with treatment
Antimicrobials	Sulfacetamide sulfur	• Keratolytic, anti-bacterial and anti-yeast • QD or BID, available as wash and leave-on
	Azaleic Acid 15%	• Antimicrobial & comedolytic, good for skin of color, lightening properties for post-inflammatory hyperpigmentation
★	Benzoyl peroxide 2.5-10% (OTC and Rx)	• Once daily, decreases bacterial resistance, bleaches clothes, available as wash or leave-on
	Clindamycin 1% Erythromycin 2%	• **Always** use with BPO to decrease development of bacterial resistance
	Dapsone (Aczone)	• Great for inflammatory lesions • Do not use with BPO at same time
Retinoids	Tretinoin , retin A, adapalene (now OTC)	• Antiinflammatory, minimizes dyskeratosis
	Tazarotene	• Category X, consider pregnancy testing

NUMEROUS combination products available !

Oral Antibiotics *Antibacterial and anti-inflammatory*

Tetracycline
- No longer available

Doxycycline
- Sub-antimicrobial dose
- Extended release formulation
- Has greatest anti-inflammatory property
- Esophagitis, photosensitivity, dietary restrictions

Minocycline
- Extended release formulation
- Dietary restrictions
- Dizziness, drug induced pigmentation, lupus

Zaenglein, A.G. et al. (2016).Guidelines of care for the management of acne vulgaris. JAAD. 74(5):945-73.

Other systemic agents

Other antimicrobials
- Amoxicillin, Bactrim DS, Azithromycin, Erythromycin
- Dapsone

Nicotinamide

Steroids
- Prednisone, dexamethasone (dermatology, endocrinology)

Hormonal agents
- OCPs
- Spironalactone

Zaenglein, A.G. et al. (2016).Guidelines of care for the management of acne vulgaris. JAAD. 74(5):945-73.

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Hormonal Treatment

Hormonal pattern
- lower 1/3 face, pre-menstrual flaring
- Look for signs hypertestosteronemia (hirstutism, PCOS)

Birth-control pills (risk assessment & counseling)
- Esp. drospirenone (risk hyperkalcemia) vs. norgestimate

Spironolactone
- Blocks androgen receptors
- Side effect: metrorrhagia, breast tenderness, hypotension
- Hyperkalcemia (monitoring not necessary in healthy women[1])
- Pregnancy prevention

[1]Mary Wu Chang, MD reviewing Rowanich M et al. JAMA Dermatol 2015 Mar 22. Graber EM. JAMA Dermatol 2015 Mar 22.

Isotretinoin

- Approved for severe cystic acne
- The "CURE" for acne ?
- Misconception/phobia of patients & parents
- Concerns:
  - Depression/suicide, inflammatory bowel disease, teratogenic
- SE:
  - dry skin/eyes/lips, muscle aches, GI, psuedotumor cerebri, etc

Isotretinoin

Ipledge Program-Federally regulated
- No change pregnancy rate since inception
- Not all dermatology providers

Laboratory and pregnancy test monitoring

Monthly visits for 6-7months (usu 5 months of drug)

Females- 2 forms of birth control method

May need concomitant prednisone taper for severe cases to prevent initial flare

Other therapeutic options

- Intralesional steroids
- Laser
- PDT
- Chemical peels
- SSRIs for excoriee

General Tx Considerations

- Discuss long term approach/expectations
- Adherence & education
- Mild cleansers vs medicated ones
- "Work Up" to higher potency of topicals
- Combination of medications
- Vehicle very important
- Weather may play role in tolerance
- Moisturize & sunscreen
- Assess for pregnancy

"The eyes only see what the mind knows"

Beyond acne….

- Solar elastosis (Favre-Racouchot)
- Acne keloidalis nuchae
- Dissecting cellulitis
- Hidradenitis
- Acne conglobate
- Chloracne

Don't forget …..
Consider differential diagnoses

Rosacea

- Unknown etiology (multifactorial)
- "Flushing" disorder
- Middle age, F>M
- Types
  - Erythematotelangiectatic
  - Papulopustular
  - Phymatous
  - Ocular

Control not Cure

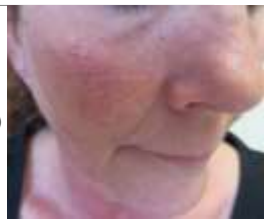
Stein, L.L. (2015). Treatment of Rosacea: Expert Insight on Trends and Best Practice. *Journal of drugs in dermatology. 14*(6): 546-547; DelRosso, J.Q. et al. (2014). Recommendations From the American Acne & Rosacea Society on the Management of Rosacea, Part 5: A Guide on the Management of Rosacea. *Cutis.* 2014 March;93(3):134-138.

Rosacea

Erythrotelangectatic	Papular/pustular	Phymatous	Ocular
Red facial skin Telangectasias Flushing & blushing	Papules & pustules Central facial erythema	Papular Cobblestone appearance	Red rimmed eyes Gritty, burning, itchy
• Camouflage green based makeup. • Topical alpha-2 agonist brimonidine (Mirvaso) QD • Avoid vasodilators • Laser or impulsed light therapy (IPL) • Beta blockers- reduce flushing • Doxycycline	*Topicals* • metronidazole cream/lotion/gel. (MetroGel or Noritate) • Azelaic acid (Finacea or Azelex 20%) • Sulfacetimide/sulfur wash or lotion • Permetherin *Systemic* • Doxycycline 20, 40, 50, 100mg QD or BID • Minocycline 100 mgbid • Optional- Erythromycin 500mg BID • OCPs Refer to dermatology if no improvement	Refer to dermatology • Isotretinoin (early) • Ablative laser • Loop cautery	• Eyelid hygiene essential • Eyewash • Eye moisturizer Oral antibiotics: • Doxycycline • Refer to ophthalmology if no improvement

Erythematotelangiectatic

- Avoid triggers
- Beta-blockers (propanolol 10mg BID)
- Alpha-2 agonist (clonidine)
  - Brimonidine (Mirvaso)
  - Oxymetazoline (Afrin)
- Laser (Vbeam) or impulsed light therapy (IPL)
- Make-up for camouflage (green-tinted)
- Sensitive skin care
- Topical anti-inflammatories
- Herbals

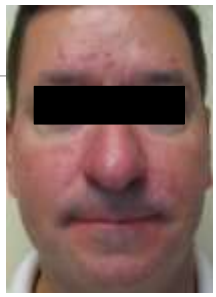


Papulopustular

Topicals
- Metronidazole
- Azelaic acid
- Sulfacetamide sulfur wash or lotion
- Clindamycin
- Permetherin (Soolantra)

Oral
- Doxycycline
- Off-label- oral retiniods

Assess for STERIOD ACNE



Other subtypes

Phymatous (rhinophyma)
- Refer to dermatology
- Mild- antibiotics and retinoids
- Severe- CO2 laser vs surgical excision

Ocular
- Moisturizers & eye care
- Oral antibiotics
- Refer to ophthalmology

Seborrheic dermatitis

- Unknown etiology (*pityrosporum or malassezia* -normal flora)
- Inflammatory response
- Common, chronic and relapsing
- Flares worse in winter and spring
- Clinical presentation varies with age
- Hair bearing or sebum rich areas (seborrheic distribution
- Risk factors: neurologic disorders, psychiatric disorders, immunocompromised, etc

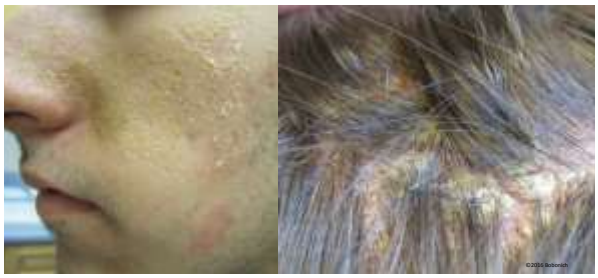
Dessinioti C, et al. Seborrheic dermatitis: Etiology, risk factors and treatments: Facts and controversies. Clinics in Dermatology 2013;31:343.

Microscopy

KOH shows yeast +

"spaghetti & meatballs"

Seborrheic dermatitis (Seb derm)



Seb Derm
Control not Cure

Alternating therapies[1]

- Anti-yeast shampoos (selenium sulfide, ketoconazole, ciclopirox)
- Antifungal topicals available as rx or OTC
- TCS- low potency desonide, mometasone fuoate
- Calcineurin inhibitor-pimecrolimus

Cochran Review (2014)[2]
Only minor differences in treatment outcomes with different agents

[1]Gupta, A.K. & Versteeg, S.G. (2016). Topical Treatment of Facial Seborrheic Dermatitis: A Systematic Review. *Am J Clin Dermatol.*
[2]Kastarinen, H., Oksanen, T., Okokon, E.O. et al. (2014). *Topical anti-inflammatory agents for seborrheic dermatitis of the face or scalp.* Cochrane Database Syst. Rev. 5:CD009446.

Indications and Effectiveness of Topical Antifungals

Class & Indications	Generic name	Dermatophyte	Yeast	Gram +	Gram -	Anti-inflammatory
Polyenes (fungistatic)						
Candidiasis	Nystatin	0	++++			
Azoles (fungistatic)						
Tinea	Miconazole	+	+++			
Pityriasis/tinea versicolor	Clotrimazole	+	+++			
Candidiasis	Ketoconazole	+	+++	++		++
Seborrheic dermatitis	Oxiconazole	+	+++			
	Econazole	+	+++	+	+	+
	Sertaconazole	+	+++	++		
Allylamines/ Benzylamine (fungicidal)						
Tinea	Naftifine	+	+			+++
Pityriasis/tinea versicolor	Terbinafine	+++	+			+++
	Butenafine	++++	++			+++
Other Agents						
Tinea; Onychomycosis; Candidiasis Pityriasis/tinea versicolor; Seborrheic dermatitis	Ciclopirox	++	++++ C. Albicans	+++	+++	+++
Pityriasis/tinea versicolor Seborrheic dermatitis	Selenium sulfide (RX & OTC)		+++ Pityrosporum			

Bobonich& Nolen (2015)

Demodex Folliculitis

- Clinically looks like rosacea
- Responds to ivermectin
- Permetherin
- Dapsone
- Skin care
- Prevention of spread & contamination

Folliculitis

- Bacterial, fungal, demodex, mechanical, drug-induced
- Inflammation of the hair follicle (perifollicular)
- *S. aureus* most common
- Gram negative less common
- High risk groups

CLINICAL PEARLS

- Look for open comedones: + favor acne
- Hair follicles (perifollicular): + favor folliculitis
- Pustules ?- think infectious

Treatment for bacterial

Topicals

- Antibacterial washes (Benzoyl peroxide, chlorhexidine, Lever 2000)
- FDA findings on triclosan and triclocarban[1]
- Localized- mupirocin 2% x 7-10 days for localized lesions.
- Also topical clindamycin
- Recurrence- consider bleach baths (¼ C full tub, once-twice weekly)

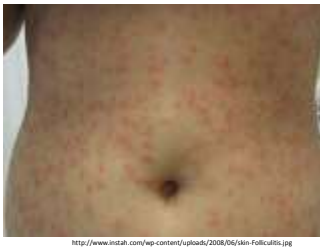
Oral

- Based on pathogen

1 www.fda.gov/forconsumers/consumerupdates/ucm205999.htm

Hot tub folliculitis

- ***Pseudomonas aeruginosa***
- Contaminated pool, whirlpool, hot tub, water slide, or loofah sponge.
- 1 to 5 days after exposure
- Urticarial red plaques w/central pustules
- VERY PRURITIC
- Bathing suit distribution



http://www.instah.com/wp-content/uploads/2008/06/skin-Folliculitis.jpg

https://www.cdc.gov/healthywater/swimming/swimmers/rwi/rashes.html

Treatment

- Infection is self-limited
- 5% acetic acid (white vinegar) wet compresses
- Cleansers like benzoyl peroxide or chlorine baths
- Topical clindamycin
- Resistant or severe cases- oral antibiotic
  ciprofloxacin 500mg BID x 5-7 d

EGFR inhibitor induced eruptions

Erlotinib, Gefitinib, Cetuximab, Panitumumab

- Cutaneous toxicities:
  - Acneiform rash
  - Xerosis
  - Paronychia
- Severity eruption correlates with effectiveness of tx
- Consider prophylactic tetracyclines and topical steroids
- Isotretinoin for refractory cases

Pitysporum Folliciliti s

- Small monomorphic papules and pustules
- Shawl pattern and forehead (pomade)
- Worse with sweating or humidity
- Iatrogenic in many cases
- Topical azoles (ketoconazole shampoo), selenium sulfide, ciclopirox, sulfacetamide sulfur
- Oral antifungals if severe
  - Diflucan
  - Ketoconazole- NOW BLACK BOX WARNING

Perioral Dermatitis/Steroid Acne

- Spares vermillion border
- Similar features or concomitant seb derm
- Stop topical steroids TAPER or will flare
- Topical erythromycin, metronidazole
- Sulfa washes HELPFUL!
- Non-steroidal topicals (immunomodulators)
- Avoid ointments
- Oral antibiotic (doxy) usually min. 8 weeks

Therapeutic approach perioral dermatitis

Oral therapies Minocycline 100 mg BID Doxycycline 100mg BID Erythromycin 250mg BID Tips: • Suggested minimum of 8 weeks of oral therapy then taper off
Topical therapies Metronidazole 1% cream or gel BID Erythromycin 2% gel or ointment BID Clindamycin 1% gel BID Pimecrolimus 1% (Elidel) cream BID Tips: • Stop use of topical steroids to facial skin;
Skin Care • Avoid moderate, potent or fluorinated topical corticosteroids • Avoid toothpaste containing fluoride • Stop use of: foundation, moisturizer or night cream until problem has resolved.

Take home points

- Most acne conditions can be treated by primary care
- Address the different components of acne
- Individualize the treatment plane
- Now many OTC products available
- Topical benzoyl peroxide and retinoids are fundamental to acne treatment
- ALWAYS consider differential diagnoses for acne conditions
- LOOK for open comedones
- If acne diagnosis not responsive to therapy, assess adherence and reconsider diagnosis

Resources

Bobonich, M.A., & Nolen, M. (2015). *Dermatology for Advanced Practice Clinicians*. Philadelphia: Lippincott

Gupta, R., High, W. A., Butler, D., & Murase, J.E. (2013). Medicolegal aspects of prescribing dermatologic medications in pregnancy. Seminars in Cutaneous Medical Surgery, 32(4), 209-216

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Thank you!

Questions ?