Things that go bump!
Diagnosis and treatment of acneiform eruptions

Margaret A. Bobonich, DNP, DCNP, FNP-C, FAANP
Assistant Professor, Frances Payne Bolton School of Nursing
& CWRU School of Medicine
University Hospitals Cleveland Medical Center

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 acneiform dermatoses.
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

Pathogenesis

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

CONSIDER Therapeutics targeting each cause!
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, excoriée, 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

<table>
<thead>
<tr>
<th>Level of severity</th>
<th>First Line</th>
<th>Alternatives</th>
<th>Refer to Dermatology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mild</td>
<td>Topical retinoids</td>
<td>BPO, oral antibiotics</td>
<td>Acne surgery, PDT, chemical peels</td>
</tr>
<tr>
<td>Moderate</td>
<td>Topical retinoids, oral antibiotics</td>
<td>Beta-blockers, spironolactone, oral contraceptives, isotretinoin</td>
<td>Isotretinoin, intralesional steroids, laser therapy</td>
</tr>
<tr>
<td>Severe</td>
<td>Topical retinoids, oral antibiotics, isotretinoin</td>
<td>Beta-blockers, spironolactone, oral contraceptives, isotretinoin</td>
<td>Isotretinoin, intralesional steroids, laser therapy</td>
</tr>
</tbody>
</table>

Table 4.2 Acne Vulgaris: Treatment algorithm in primary care

### Classes of topicals

<table>
<thead>
<tr>
<th>Cleansers</th>
<th>Mild Cleansers</th>
<th>Salicylic Acid</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Use mild cleansers if skin is dry/sensitive or becomes dry with treatment</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Antimicrobials</th>
<th>Sulfacetamide-sulfur</th>
<th>Azelaic Acid 15%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Keratolytic, anti-bacterial and anti-yeast</td>
<td>Antimicrobial &amp; comedolytic, good for skin of color, lightening properties for post-inflammatory hyperpigmentation</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Retinoids</th>
<th>Tretinoin</th>
<th>Tazarotene</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Antiinflammatory, minimizes dyskeratosis</td>
<td>Category X, consider pregnancy testing</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other systemic agents</th>
<th>Other antimicrobials</th>
<th>Dapsone</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Amoxicillin, Bactrim DS, Azithromycin, Erythromycin</td>
<td>Steroids</td>
</tr>
<tr>
<td></td>
<td>Dapsone</td>
<td>Prednisone, dexamethasone (dermatology, endocrinology)</td>
</tr>
<tr>
<td></td>
<td>Nicotinamide</td>
<td>Hormonal agents</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OCPs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Spironalactone</td>
</tr>
</tbody>
</table>

### Oral Antibiotics

**Antibacterial and anti-inflammatory**

- **Tetracycline**
  - No longer available
  - Sub-antimicrobial dose
- **Doxycycline**
  - Extended release formulation
  - Has greatest anti-inflammatory property
  - Esophagitis, photosensitivity, dietary restrictions
- **Minocycline**
  - Extended release formulation
  - Dietary restrictions
  - Dizziness, drug induced pigmentation, lupus

---

**Other systemic agents**

- **Other antimicrobials**
  - Amoxicillin, Bactrim DS, Azithromycin, Erythromycin
  - Dapsone
  - Nicotinamide
  - Steroids
  - Prednisone, dexamethasone (dermatology, endocrinology)
- **Hormonal agents**
  - OCPs
  - Spironalactone

---


© Bobonich 2016

Hormonal Treatment

Hormonal pattern
- lower 1/3 face, pre-menstrual flaring
- Look for signs hyper testosterone (hirsutism, PCOS)

Birth-control pills (risk assessment & counseling)
- Drospirenone (risk hyperkalemia) vs. norgestimate

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

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, pseudotumor cerebri, etc

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

Laboratory and pregnancy test monitoring
- Monthly visits for 6-7 months (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 excoriation

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**

---

**Rosacea**

<table>
<thead>
<tr>
<th>Red facial skin</th>
<th>Telangiectasia</th>
<th>Flushing &amp; blushing</th>
<th>Erythematotelangiectatic</th>
<th>Papulopustular</th>
<th>Phymatous</th>
<th>Ocular</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rosacea</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Camouflage green based makeup
- Topical at-home telase (Mirvaso) QD
- Avoid vasodilators
- Laser or pulsed light therapy (PLT)
- Beta-blockers - reduce flushing
- Doxycycline

- Papules & pustules
- Central facial erythema
- Papular & pustular appearance
- Red, irritable eyes, gritty, burning, itchy

- Refers to dermatology
- Ablative/laser
- Scraping
- Eyelid hygiene
- Eye wash
- Oral medications

- Refers to ophthalmology

---

Erythematotelangiectatic
- Avoid triggers
- Beta-blockers (propranolol 10mg BID)
- Alpha-2 agonist (clonidine)
- Brimonidine (Mirvaso)
- Oxymetazoline (Afrin)
- Laser (Vbeam) or impulsive 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
- Permethrin (Soolantra)

Oral
- Doxycycline
- Off-label- oral retinoids

Assess for STEROID 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

Microscopy

KOH shows yeast +
“spaghetti & meatballs”

Seborrheic dermatitis (Seb derm)
Seb Derm

Control not Cure

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

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

Demodex Folliculitis
- Clinically looks like rosacea
- Responds to ivermectin
- Permethrin
- 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
- Localized - mupirocin 2% x 7-10 days for localized lesions.
- Also topical clindamycin
- Recurrence - consider bleach baths (1 C full tub, once-twice weekly)

**Oral**
- Based on pathogen

---

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

---

1. [www.fda.gov](http://www.fda.gov)/Brownsmen/consumerupdate/utc265999.htm
2. [www.cdc.gov](http://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 Follicilitis
- 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
- Sulfur washes HELPFUL!
- Non-steroidal topicals [immunomodulators]
- Avoid ointments
- Oral antibiotic (doxy) usually min. 8 weeks

Therapeutic approach perioral dermatitis

<table>
<thead>
<tr>
<th>Oral Therapies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minocycline 100 mg BID</td>
</tr>
<tr>
<td>Doxycycline 100mg BID</td>
</tr>
<tr>
<td>Erythromycin 250mg BID</td>
</tr>
</tbody>
</table>

Tips:
- Suggested minimum of 8 weeks of oral therapy then taper off

<table>
<thead>
<tr>
<th>Topical Therapies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metronidazole 1% cream or gel BID</td>
</tr>
<tr>
<td>Erythromycin 2% gel or ointment BID</td>
</tr>
<tr>
<td>Clindamycin 1% gel BID</td>
</tr>
<tr>
<td>Pimecrolimus 1% (Elidel) cream BID</td>
</tr>
</tbody>
</table>

Tips:
- Stop use of topical steroids to facial skin;

<table>
<thead>
<tr>
<th>Skin Care</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avoid moderate, potent or fluorinated topical corticosteroids</td>
</tr>
<tr>
<td>Avoid toothpaste containing fluoride</td>
</tr>
<tr>
<td>Stop use of: foundation, moisturizer or night cream until problem has resolved.</td>
</tr>
</tbody>
</table>

Take home points

- Most acne conditions can be treated by primary care
- Address the different components of acne
- Individualize the treatment plan
- 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


Thank you!

Questions?