Acne Vulgaris
Choosing a Treatment Option

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Objectives
- At the end of this presentation the audience should be able to:
  - Evaluate the appropriateness of an acne product for a patient based on acne severity and patient history.
  - Differentiate between the acne products available.
  - Devise a treatment regimen based on efficacy and tolerability of the products presented.
  - Identify hormonal and alternative treatment options for acne.

What Options are Available for Treatment?
- Topical Agents
  - Mild to moderate acne
  - Systemic Agents
    - Moderate to severe acne
    - Intralesional: severe, refractory acne
  - Miscellaneous Therapies
  - Complementary & Alternative Medicine

Topical Agents
Standard of care
- Available Options:
  - Topical retinoids are important in acne care
    - Tretinoin
    - Tazarotene
    - Adapalene
  - Antibiotics
    - Erythromycin and clindamycin
  - Benzoyl peroxide
  - Salicylic acid
  - Azelaic acid

Topical Antibiotics

Erythromycin 1.5%
Efficacy
- Reduction in Inflammatory Lesions
  - Study 1: 62% decrease from baseline
  - Study 2: Mean change -9 lesions
  - Study 3: 50% decrease from baseline
- Reduction in Non-Inflammatory Lesions
  - Study 1: 43% decrease from baseline
  - Study 2: Mean change -12 lesions
  - Study 3: 40% decrease from baseline
- Reductions in Global Severity Grade
  - Study 1: 73% of patients showed “excellent” or “good” responses to treatment
  - Study 2: 48%
  - Study 3: - - -

Erythromycin 1.5%
Tolerability
- Study 1: 23% of patients reported ANY side effect
  - (dryness, burning, itching, scaling, erythema)
- Study 2: - - -
- Study 3: - - -
**Topical Retinoids**

### Clindamycin 1.0%

<table>
<thead>
<tr>
<th><strong>Efficacy</strong></th>
<th><strong>Tolerability</strong></th>
</tr>
</thead>
</table>
| Reduction in Inflammatory Lesions | Study 1: 59% decrease from baseline  
Study 2: Mean change -7 lesions  
Study 3: 45% reduction from baseline | Study 1: 13% of patients reported ANY side effect (dryness, burning, itching, scaling, erythema)  
Study 2: - - -  
Study 3: - - - |
| Reduction in Non-Inflammatory Lesions | Study 1: 39% decrease from baseline  
Study 2: Mean change -11 lesions  
Study 3: 50% reduction from baseline |  |
| Reductions in Global Severity Grade | Study 1: 62% of patients showed "excellent" or "good" responses  
Study 2: 47%  
Study 3: 64% | |

### Erythromycin 2%

- **$150/30g**

### Clindamycin 1.0%

- **$85/30g**

### Adapalene 0.1%

<table>
<thead>
<tr>
<th><strong>Efficacy</strong></th>
<th><strong>Tolerability</strong></th>
</tr>
</thead>
</table>
| Reduction in Total Lesion Counts | Study 1: 28% vs. 22%  
Study 2: 49% vs. 37%  
Study 3: - - - | Skin Irritation  
Study 1: 23% vs. 29%  
Study 2: Significantly fewer incidents and to a lesser degree  
Study 3: 64% vs. 68% |
| Reduction in Inflammatory Lesion Counts | Study 1: 32% vs. 17%  
Study 2: - - - | Patient Preference  
(Ease of spreading, smell, feel)  
Study 3: 65% preferred adapalene |
| Reductions in Global Severity Grade | Study 1: 28% vs. 16%  
Study 2: - - - | |

### Tretinoin 0.025%

<table>
<thead>
<tr>
<th><strong>Efficacy</strong></th>
<th><strong>Tolerability</strong></th>
</tr>
</thead>
</table>
| Reduction in Total Lesion Counts | Study 1: Similar in efficacy to tazarotene | Skin Irritation  
Study 1: Not statistically significant |

### Adapalene 0.1% Tolerability

- **$235/45g**

### Tretinoin 0.025% Tolerability

- **$100/20g**

### Tazarotene 0.1%

- **$350/30g**

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6. Dunlap FE. Adapalene0.1% gel for the treatment of acne vulgaris: its superiority compared to tretinoin 0.025%. Br J Dermatol. 1998;139(suppl52):17-22.
Systemic Agents
Standard of Care

- Doxycycline & Minocycline
  - Minocycline may be superior to doxycycline
- SMZ/TMP is effective in those where other antibacterials cannot be used
- Avoid use of erythromycin unless unable to use a tetracycline due to bacterial resistance

Antibiotics

Isotretinoin

- Refractory acne
  - 0.5 – 2.0 mg/kg/day over a 20-week course
- iPLEDGE program
- Prescribers, patients, pharmacies

- Isotretinoin Efficacy

<table>
<thead>
<tr>
<th>Study</th>
<th>Achieved Remission or Marked Improvement from Baseline</th>
<th>Relapse Rates</th>
</tr>
</thead>
<tbody>
<tr>
<td>1: 84% in 4 months</td>
<td>1: 28% (ANY cyst in the 3 year follow-up)</td>
<td>1: 28% (ANY cyst in the 3 year follow-up)</td>
</tr>
<tr>
<td>2: In 12-20yoa: 95%, in 21-35yoa: 93%</td>
<td>2: In 12-20yoa: 3.9%, in 21-35yoa: 5.9%</td>
<td>2: In 12-20yoa: 3.9%, in 21-35yoa: 5.9%</td>
</tr>
<tr>
<td>3: 85% in 4 months</td>
<td>3: 39% (in a 10 year follow up)</td>
<td>3: 39% (in a 10 year follow up)</td>
</tr>
</tbody>
</table>

- Isotretinoin Tolerance

<table>
<thead>
<tr>
<th>Study</th>
<th>Arthritis</th>
<th>Xerosis</th>
<th>Nose bleeds</th>
<th>Lipid Abnorm. (TGs)</th>
<th>LFT Abnorm.</th>
<th>Psychiatric Issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>1: 0.03% to 0.09%</td>
<td>2: 43%</td>
<td>2: 2.5%</td>
<td>2: 4.2%</td>
<td>2: 4.8%</td>
<td>2: 0%</td>
<td></td>
</tr>
</tbody>
</table>

Miscellaneous Therapies

- Hormonal Therapy
  - Estrogen-containing oral contraceptives in women
    - FDA-approved for the treatment of acne contain norgestimate with ethinyl estradiol
    - Ortho Tri-cyclen
    - Oral corticosteroids
      - Short courses of high dose oral steroids may be of benefit in patients with highly inflammatory acne
      - Strength of recommendation: B

Miscellaneous Therapies

- Spironolactone
  - Dosages of 50 – 200mg shown to be effective
  - Strength of recommendation: B
Complementary and Alternative Medicine

- Herbal Agents
  - Tea tree oil
  - Ayurvedic

  - Evidence is limited (single clinical trial) but may be effective
  - Much slower onset of action than other topical agents

So, What Does This All Mean?

Begin with:
- CLINDAMYCIN or ERYTHROMYCIN topical
  - OR
- ADAPALENE or TRETINOIN

If we fail to adequately control acne:
- Systemic
  - MINOCYCLINE/DoxyCYCLINE OR BACTRIM

When treatment options have been exhausted:
- ISOTRETINOIN & SYSTEMIC ABX

Closing Comments

Why treat acne?
Remember that myths about acne are just as common as the skin condition itself.

One common myth is that you have to let acne run its course.

According to the American Academy of Dermatology, letting acne run its course is NOT always the best advice.

Without treatment, permanent scars and dark spots often occur and can forever damage a person's self esteem.

Disclaimer

Update on clinical practice guidelines coming from the American Academy of Dermatology is anticipated Summer 2015.