Acne Management
Practical Day of Pediatrics 2020
Roundtable Discussion

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INTRODUCTION

- Acne is a chronic, inflammatory disease of the pilosebaceous unit
- Acne affects up to 85% of adolescents
- Psychosocial effects of acne can be profound
- Associated with anxiety, depression, and social isolation
- Physical scarring and post-inflammatory pigmentary changes
- Pediatricians are in a key position to manage mild to moderate acne
PATHOGENESIS OF ACNE

- Understanding the pathogenesis is key to developing an effective treatment plan.
- Caused by interplay of 4 factors:
  - Increased sebum production (androgen driven)
  - Abnormal follicular keratinization (follicular plugging)
  - Colonization of follicle by Propionibacterium acnes
  - Inflammation
- Genetic background and environment modulate these factors.
EVALUATION OF ACNE PATIENT

- Predominate lesion morphology (‘pimple profile’)
  - Comedonal, inflammatory, mixed
- Assess severity (‘doorway test’)
  - Mild, moderate, severe, very severe
  - Based on number, type, extent of lesions
- Look for secondary changes (scarring, pigmentation, erythema)
- Elicit patient’s level of concern (motivation)
- Record skin care routine and past treatments (response, adverse reactions)
- Insurance coverage 😞
LESION MORPHOLOGY

Closed Comedones (whiteheads)

Open Comedones (blackheads)
LESION MORPHOLOGY

Papules and Pustules

Nodules / Cysts
ACNE SEVERITY - MILD
ACNE SEVERITY - MODERATE
ACNE SEVERITY - SEVERE
ACNE SEVERITY – VERY SEVERE
SECONDARY LESIONS

Post-inflammatory erythema  Scarring  Post-inflammatory hyperpigmentation
TREATMENT OF ACNE – KEY POINTS

• Topical retinoids should be foundation of any acne treatment plan
• Benzoyl peroxide is antibacterial without risk of resistance
• Antibiotics should never be used as monotherapy
• Antibiotics should always be combined with a benzoyl peroxide
• Oral antibiotic use should be limited to 3 to 4 months, whenever if possible
• Isotretinoin is highly effective and should be considered for nodulocystic acne, treatment resistant acne, or relapsing acne
TREATMENT OF ACNE

• Mild acne, comedonal
• 1st line:
  • Benzoyl peroxide (BP)
    OR
  • Topical retinoid
    OR
  • Topical combination therapy
• Review skin care routine
• Discuss compliance, set expectations
BENZOYL PEROXIDE (BP)

• Available OTC
• Antimicrobial, kills *P. acnes*
• Protects against bacterial resistance
• Works globally and long-term
• Adverse effects:
  • Concentration dependent irritation, peaks around 2 weeks
  • Allergic contact dermatitis rare
  • Photosensitivity
  • Bleaches textiles
BENZOYL PEROXIDE (BP)

• Tips to choosing a BP:
  • For face: 2.5 – 3.75% leave on product (gel, foam, lotion) once a day
  • For trunk: 5 – 10% wash off product (bar, liquid) once a day
  • Higher concentrations better for oily skin
  • Lower concentrations for sensitive or dry skin

• Rx combination products
  • BP 2.5% + adapalene 0.1% or 0.3% gel
  • BP 5% + clindamycin 1% or 1.2% gel
  • BP 5% + erythromycin 3% gel
TOPICAL RETINOIDS

- Adapalene, tretinoin, tazarotene
- Comedolytic and anti-inflammatory
- Reduces comedones and inflammatory lesions (TREATS) and prevents formation of microcomedones (PREVENTS)
- Helps with scarring and post-inflammatory hyperpigmentation
- Adverse effects:
  - Erythema, dryness, peeling, burning/stinging
  - Photosensitivity
  - Ocular dryness
  - Pregnancy category C (tazarotene category X)
TOPICAL RETINOIDS

• Tips for using a topical retinoid
  • Pea-sized amount to entire face (not spot treating)
  • Follow general skin care routine
  • Use every other day and increase as tolerated
  • Sensitive skin: lower concentrations, creams or lotions, special formulations
  • Oily skin: higher concentrations, gels
  • Generic tretinoin is degraded by sunlight and must be applied at night
  • Generic tretinoin and tazarotene are inactivated by BPO and must be used at different times
TREATMENT OF ACNE

• Mild acne, inflammatory

• 1st line:
  • Benzoyl peroxide (BP)
  OR
  • Topical retinoid
  OR
  • Topical combination therapy
    BP plus topical antibiotic

• Review skin care routine

• Discuss compliance, set expectations
TOPICAL ANTIBIOTICS

- Mild to moderate inflammatory acne
- No role in treating comedonal acne
- Antibacterial, kills *P. acnes*
- Due to risk of bacterial resistance, should never be used as monotherapy
- Best used in combination with benzoyl peroxide
- Not for maintenance of acne
- Topical preparations (Rx)
  - Clindamycin 1% solution, gel, lotion, foam
  - Erythromycin not used much anymore
  - Rx combination products BPO 5% + erythromycin 3% OR BPO 2.5, 3.75, 5% + clindamycin 1, 1.2% OR tretinoin 0.025% + clindamycin 1.2%
TREATMENT OF ACNE

- Moderate acne, inflammatory/mixed
- 1st line:
  Topical combination therapy
  Retinoid + BP or Retinoid + BP + antibiotic
  OR
  Oral Antibiotic + retinoid + BP
- Review skin care regimen
- Discuss compliance
- Follow-up 2 to 3 months to assess response to treatment
- Consider referral if not improved
ORAL ANTIBIOTICS

- Moderate to severe inflammatory acne
- Antimicrobial and anti-inflammatory
- Never use as monotherapy due to bacterial resistance
- Combine with benzoyl peroxide (reduce resistance) and a topical retinoid (maintenance)
- Limit duration to 3 to 4 months, if possible
- Doxycycline or minocycline most commonly used
- Alternatives: macrolides (≤ 8 years), trimethoprim-sulfamethoxazole, cephalosporins, penicillins
TREATMENT OF ACNE

• Severe acne, inflammatory
  • 1st line therapy
    Oral antibiotic + BP + topical retinoid
    OR
    Isotretinoin
    AND/OR
    Hormonal therapy (♀)
• Dermatology referral
ISOTRETINOIN

• Indicated for severe nodulocystic acne, scarring acne, moderate to severe acne unresponsive to 3-4 months of treatment, or chronic acne prone to relapse

• Isotretinoin monotherapy remains treatment of choice for severe acne

• Targets all 4 pathogenic factors

• FDA risk management program (iPledge) registration is necessary for all patients and physicians using isotretinoin
ISOTRETINOIN

• Teratogenic: must be abstinent or use 2 forms of birth control during and for one month after treatment
  • Work together to ensure adhere to this
• Risk of depression and suicide:
  • Many studies, incl. recent meta-analysis show no increased risk, depression actually decreased
  • Important to screen for depression/mood changes and stop isotretinoin if indicated
• Risk of IBD: Data does not support this
• Surgical procedures: wisdom teeth extraction, skin surgery, cosmetic procedures ok during treatment
HORMONAL THERAPY

• Decrease androgen levels -> sebum production
• Combination oral contraceptives suppress ovarian androgen production
  • Norgestimate/ethinyl estradiol (Ortho Tri Cyclen)
  • Norethindrone acetate/ethinyl estradiol (Estrostep)
  • Drospirenone/ethinyl estradiol (Yaz)
  • Drospirenone/ethinyl estradiol/levomefolate (Beyaz)
• Spironolactone blocks androgen receptors (25 mg to 150 mg QD); often with OCP (lessen menstrual irregularity, prevent pregnancy)
• Progestin-only OCPs can worsen acne
ACNE IN SKIN OF COLOR

• Considerations for skin of color patients
  • PIH very common and distressing
  • Discuss PIH upfront when treating acne
  • Consider regimens containing topical retinoid and azelaic acid (10-20%, OTC) to address both acne and PIH
  • Educate patients about sun protection, sunscreen use
  • Ask about pomades or oils on hair and face
COST CONSIDERATIONS

• AL Medicaid covers oral antibiotics, COC, spironolactone, but NO other treatments for acne
  • Makes following guidelines challenging
  • Leads to overuse of oral antibiotics in this population
  • Isotretinoin is only treatment option for patients with severe acne
• Benzoyl peroxide and adapalene gel 0.1% are OTC
• GoodRx is a good resource for obtaining topical retinoids and isotretinoin at ‘affordable price’
• Shop around for best price
• Hormonal options in females
REFERENCES

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Update in the Management of Acne in Adolescence
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Thank you!