

Acne vulgaris: Zits, Pimples and Cysts

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Follow-up from “Infestations”

- Diatomaceous earth is non-toxic, but shouldn't be breathed
- Consider vacuuming seat after carrying client

Conflict of Interest

- No conflict of interest

BC Children's Hospital 2008-2009

Approximate number
of visits for the 10 most
common diagnoses

Atopic Dermatitis	1100
Acne	160
Hemangioma	150
Congenital Nevus	100
Warts	95
Molluscum Contagiosum	85
Psoriasis	80
Eczema, NEC	75
Vitiligo	60
Nevus	40

Acne - background

- Very common – 60-70% at some time
 - 20% severe acne with physical and emotional scarring
 - Some studies >90% of teens
- Most common in teenagers
- Boys > Girls in teens, women > men in adults
- Can continue into adulthood
 - 12% women, 5% men at age 25

Acne - Pathophysiology

- 4 interrelated processes
 - Hyperkeratination (sticky skin cells)
 - plugging hair follicle
 - Androgen stimulation (hormones)
 - sebum production
 - Bacterial infection – p. acnes
 - Inflammation
 - papules and pustules
 - cysts and nodules

Acne Vulgaris



Acne – Types of lesions

- Active lesions

- Microcomedone
- Open comedone (blackhead)
- Closed comedone (whitehead)
- Papule
- Pustule
- Cyst
- Nodule

- Sequelae

- Dyspigmentation (usually hyperpigmentation)
- Scarring (sometimes keloidal)

Increasing
Severity



TYPE OF LESIONS

Noninflammatory lesions



Closed comedones



Open comedones

Inflammatory lesions



Papules/pustules



Nodules

ACNE CLASSIFICATION AND GRADING



Mild
Papules/pustules +/+
Nodules 0



Moderate
Papules/pustules +++
Nodules +/+



Severe
Papules/pustules +++
Nodules +++

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Figure 7-2 Acne classification of lesions.

What makes it worse?

- Genetics
- Stress
- Mechanical factors
- Topical oils
- Medications
- Diet - maybe

What doesn't make it worse?

- Dirt
- Sunlight
- Sex
- Most foods

Acne and the psyche

- Interrelated
- Stress worsens acne
- Acne worsens depression and anxiety
 - 3/10 with mild acne
 - 7/10 with severe acne
- Acne associated with lower self-esteem
- Unemployment

Disturbance in the well-being of a patient with acne: suggestions for anticipation and detection. By Möhrenschrager M, Henkel V, Möller HJ, Worret WJ, Ring J, [Acta Derm Venereol], 2005; Vol. 85 (2), pp. 182-3;

Acne and the psyche

- **The way I'm seen by other people**

- I'm not bad looking but my acne which I've had for six years has stopped me from being able to interact with people, especially boys. I cannot even think of anyone who would want to be with me in this state and as a result I've never been kissed. I watch other girls with their flawless skin, I can see that them looking at me like I deserve this and they are much better than me because they don't have acne. I got pimples so early that someone started this mean rumour that I didn't wash regularly. I know acne supposed to be temporary but frankly it has lasted so long that I doubt it will ever go away.
 - Guest No one sees the real me

Acne and the psyche

- **Acne suck!!!!**

- I find almost everyone I pass by stare!! I don't have that bad of acne but the small zits cover my face!! I have no self confidence and just wish to be young again with no acne. I was literally clear less than a year ago and now it's like what happened?!? I'm so depressed :(
- Guest Sad :(

Acne and the psyche

- **How ugly it makes you feel!**

- I have had acne since i was 12 and now im 16... i hate it!! I hate when people look at my face. Everybody tries to tell me how to solve it as if I haven't tried everything! Some days I just wish I could just stay home until I got rid of it... but it dosent happen. But i will fight until the end becuase I don't want to continue to live like this... hiding from everybody.

- **Guest Fighting!!**

What to do about acne

- Home therapy
 - Manage stress
 - Diet
 - Over the counter treatments
 - Prescription creams/lotions
 - Prescription pills
-
- Patience – nothing works quickly
 - Prevention of new spots is better than treatment of those already present

Home therapy

Some ideas from the web

- Lemon juice, baking soda, macca root
- Milk, salt water, toothpaste
- Regular aspirin crushed and mixed with iodine
- Cooked oatmeal with honey
- Baking soda, sea salt and peppermint mixed with vinegar
- Honey and cinnamon
- Brown sugar and lemon juice
- Milk of Magnesia

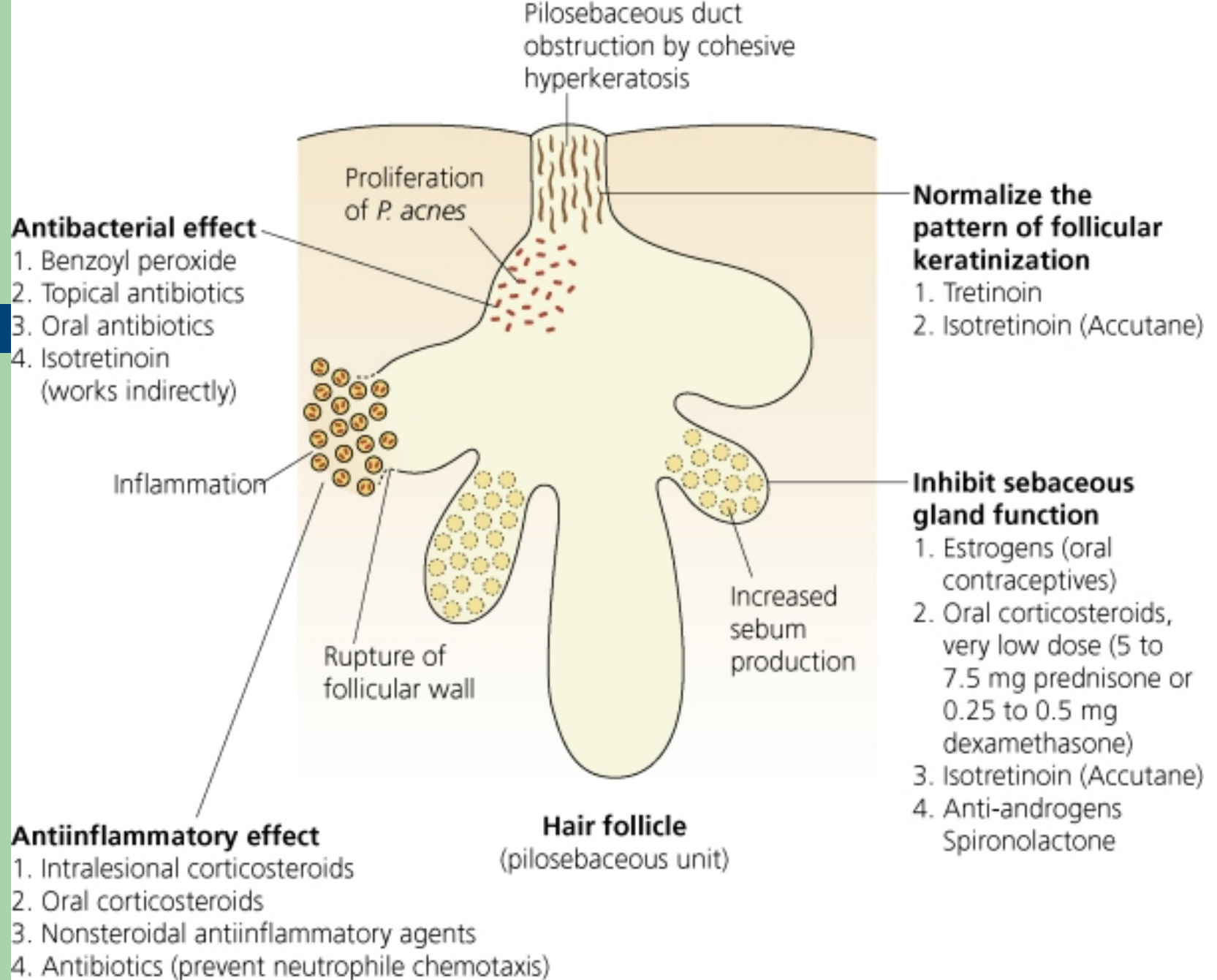
- No wonder it's confusing/overwhelming!

Home therapy

- Avoid things that make acne worse
 - Oil-based make-up (look for non-comedogenic)
 - Suntan oils
 - Hair gels and sprays
 - Contact with cooking oils/greasy foods
 - Sweat bands, tight helmets etc.
- Avoid squeezing/picking at pimples
- Don't over-wash the skin

Stress and Diet

- Manage stress
- Diet
 - Milk: probably
 - High glycemic index foods: maybe
 - Fatty foods: unlikely
 - Chocolate: unlikely except as part of high-glycemic diet
 - Fish oils
- A healthy lifestyle is beneficial on many fronts
- Acne is not caused by an unhealthy lifestyle



Over the counter products

Benzoyl Peroxide

- Antibiotic
- Available in a gel, wash cream, bar and lotion
- 2.5% and 5% OTC, 10%-20% by prescription
- Used daily or twice daily if tolerated
- Can be irritating, drying
- Bleaches hair and fabrics

Examples: Pure Perfection, Proactive, Skin ID, Spectro Acnecare, Clearasil, Clinique acne solutions, Oxyderm, Panoxyl

Over the counter products

Salicylic acid

- Removes dead skin cells
- No affect on sebum or bacteria
- Creams, lotions, pads, washes, cleansers, astringents
- May cause dryness or irritation
- Examples: Stridex, Neutrogena pads, Aveeno Clear, Olay Blemish Control, Clean and Clear

Prescription topicals

Antibiotics

- Antibacterial and anti-inflammatory
- Not used alone
- Clindamycin
 - Most commonly recommended
 - Comes in solution and lotion
 - Found in combination products
- Erythromycin
 - Less often used due to resistance
- Sulfur
 - Applied at bedtime as spot-treatment (available in some over the counter preparations)

Prescription topicals

Retinoids

- Tretinoin (Retin-A, Stieva-A) and Adapalene (Differin)
- Vitamin A derivatives
- Un-plug the pores
- Creams and gels
- Can be drying and irritating
- Begin every other night
- Avoid sensitive areas
- May get worse before gets better
- Makes sunburn more likely

Prescription topicals

Combination products

- More effective than either product alone
- Expensive, but may be cheaper than 2
- May prevent resistance
- Easier to apply
- Tactuo: adapalene + benzoyl peroxide
- Clindoxyl: benzoyl peroxide + clindamycin
- Stievamycin: tretinoin + erythromycin

Prescription oral medications

Antibiotics

- Antibiotic and anti-inflammatory effect
- Doxycycline
- Minocycline
- Trimethoprim / Sulfa
- Limited by concerns of resistance

Prescription oral medications

Isotretinoin

- Side effects
 - Dry eyes, skin, lips
 - Photosensitivity
 - Visual changes – decreased night vision
 - Muscle or joint aches
 - Headaches (pseudotumor cerebri, esp when used with TCN)
 - Bony changes (hyperostosis esp seen with prolonged use)
 - Blood fats elevated (Hyperlipidemia, increased triglycerides)
 - Liver impacts (elevated transaminases)
 - Pregnancy Category X
 - Depression and suicidal ideation
 - Inflammatory bowel disease
- Begin 0.5 mg/kg/day and increase to 1mg/kg.day after 1 month if tolerated – anticipate flare of acne in first month
- Goal - cumulative dose of 100-150 mg/kg

Acne – Treatment Ladder

- Comedonal
 - Topicals alone
 - Salicylic acid OTC
 - Benzoyl Peroxide OTC
 - Topical Antibiotics
 - Clindamycin, Erythromycin,
 - Sulfacetamide
 - Retinoids
- Primarily comedonal, few papules and pustules
 - Combination products
 - BP or Clindamycin in the AM, Retinoid in the PM

Acne – Treatment Ladder

- Moderate inflammatory papules and pustules, few cysts
 - Oral Antibiotics
 - Doxycycline 50-100 mg BID
 - TCN 250 QID
 - Minocycline 50-100 mg BID
 - Erythromycin 250-500mg BID
 - Trimethoprim Sulfamethoxazole
 - Plus Benzoyl peroxide and/or retinoid
 - Consider oral contraceptives in females
 - Isolated large cysts – Intralesional triamcinolone



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Acne – Treatment Ladder

- Severe inflammatory/mixed
 - Unresponsive to antibiotics
 - Isotretinoin
 - Dry eyes, skin, lips
 - Photosensitivity
 - Pseudotumor cerebri (esp when used with TCN)
 - Hyperostosis (esp seen with prolonged use)
 - Hyperlipidemia
 - Elevated transaminases
 - Pregnancy Category X
 - Depression and suicidal ideation
 - Inflammatory bowel disease
 - Begin 0.5 mg/kg/day and increase to 1mg/kg.day after 1 month if tolerated – anticipate flare of acne in first month
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MILD

Comedones
(Blackheads/whiteheads)

Start with Retinoid

Retinoid

Adapts in 4-8 weeks
Consider adding
topical antibacterials

Benzoyl peroxide
or
Topical antibiotic
+
Consider increasing
strength of retinoid or
changing the base



MILD

Papules/pustules +/++
Nodules 0

Start with Retinoid or
topical antibacterials
or start with both

Retinoid
with or without
Topical antibiotic
or
Benzoyl peroxide

Use as combination
therapy initially or add
later

Oral antibiotic
(3 month trial)

Women
Rx fails
Not a candidate for Accutane

Oral contraceptive
Spironolactone



MODERATE

Papules/pustules ++/+++
Nodules +/++

Start with topical
antibacterials
(drying therapy)

Sulfacetamide + sulfur
or other
Topical antibiotic
with
Benzoyl peroxide
with or without
Oral antibiotics

Maximum effect at 8 weeks
then add retinoid if acne
not controlled

Retinoid

Minimal scarring
Try conventional
topical and oral Rx
before Accutane



SEVERE

Papules/pustules +++/++++
Nodules +++/+++

Scarring
Long history of acne
treatment
Failed other Rx
Depressed with
appearance

Accutane
(Isotretinoin)

Women
Relapse after second
course of Accutane
Determine endocrine status

Thank you!

