

Acne Overview

Topics in Acne

- Acne in childhood
- Acne in adulthood
- Acne in pregnancy
- Acne in ethnic skin
- Updates on isotretinoin

Acne in Childhood

- Neonatal acne



Acne in Childhood

- Neonatal acne
 - a.k.a. *neonatal cephalic pustulosis*
 - Occurs in first month of life (peak week 2-3)
 - Seen in up to 20% neonates
 - More common in males
 - Papules and pustules on face
 - Primarily cheeks; can be on trunk too
 - Maternal hormones thought to increase sebum production in early life
 - May *actually* be due to malassezia species
 - Has been cultured from pustules, but may just be resident flora?
 - Not predicative of future acne

Acne in Childhood

- Neonatal acne
 - Treatment
 - None: usually resolves rapidly (within days)
 - Treat possible malassezia etiology
 - Topical ketoconazole 2% BID for 1 week

Acne in Childhood

- Infantile acne



Acne in Childhood

- Infantile acne
 - Occurs at 3-6 months of age
 - Grouped comedones, papules, and pustules
 - Due to “hormonal imbalance”
 - Elevated LH from testes in boys
 - Elevated DHEA from adrenal (boys and girls)
 - May be a precursor of bad teenage acne; may have strong family history

Acne in Childhood

- Infantile acne
 - Hormones stabilize by about 12 months
 - Treatment
 - None: many cases resolve by age 1-2
 - Most will need treatment:
 - UK study of 29 pts found that majority had inflammatory acne that required >1 year of therapy
 - Topical retinoids and benzoyl peroxide
 - Emycin 125mg BID or TMP-SMX 100mg BID
 - Isotretinoin in severe nodulocystic cases

Acne in Childhood

- Scarring
 - Treatment is usually addressed b/c even minor acneiform lesions can cause long-term sequelae



Acne in Adulthood



Acne in Adulthood

- Acne in adulthood
 - Appears in 20-30s, often without prior acne
 - More common in women
 - Same pathogenesis as teenage acne
 - e.g. hormones/sebum, microcomedo, p.acnes and inflammation
 - Seems to be more hormonally responsive (e.g. flared by premenstrual, stress, OCPs)
 - Most do not have a true hormone abnormality, but increased end-organ sensitivity

Acne in Adulthood

- Clinically
 - “Falls off the face”
 - Chin, jaw, neck
 - Low grade and chronic, often with premenstrual flares
 - Deeper, nodulocystic lesions and fewer comedones



Acne in Adulthood

- Treatment
 - Same as other therapies
 - Anti-androgen therapies
 - Specifically aimed at decreasing the hormonally influenced increase in sebum
 - Only *one* part of the problem! Contrary to the ads, OCPs alone do not cure acne!
 - OCPs
 - Direct anti-androgens

Acne in Adulthood

- Treatment

- OCPs

- MOA

- Suppress ovarian androgen production
 - Increase SHBG and thus decrease free T

- Low dose estrogen and LOW dose progestin

- Norgestimate**
 - Norethindrone**
 - Desogestrol, levonorgestrol, norgestimate



Acne in Adulthood

- Treatment
 - OCPs: data
 - Ortho-tricyclen**
 - 6 month data on >500 pts, 50% reduction of inflammatory lesions v 30% in placebo
 - Estrostep**
 - Alesse
 - Yasmin
 - Diane

Acne in Adulthood

- Treatment
 - OCPs: safety profile
 - Low estrogens (35 micrograms) do NOT have significant cardiovascular or breast cancer risks
 - Risk of DVT increased
 - Contraindications: uncontrolled hypertension, smoking, migraine with aura

Acne in Adulthood

- Treatment

- Anti-androgens: none are FDA approved

- Spironolactone

- Aldosterone blocking at low dose, androgen blocking at higher doses
- Studies have been 50-200mg/day
 - 50mg may be as effective with fewer side effects
- Side effects: increased K, irregular menses, breast tenderness, teratogenic to development of male fetus (preg D)
 - Usually used in conjunction with OCP
- Drospirenone (a spironolactone analogue, the progestin component of Yasmin) is equivalent to 25mg of spironolactone

Acne in Adulthood

- Treatment
 - Anti-androgens
 - Cyproterone acetate
 - Not available in U.S.
 - Progestin component of Diane
 - Flutamide
 - Used in prostate cancer
 - Insulin sensitizers
 - Metformin is helpful in PCOS
 - Elevated insulin levels decrease *endogenous* retinoids
 - Treating the hyper-insulinemic state may help acne

Acne in Pregnancy



Acne in Pregnancy

- Acne can get better or worse in pregnancy
 - First trimester is worse, when progesterone is high
- Does not necessarily relate to prior or future acne state



Acne in Pregnancy

- Treatments
 - Stick to category B drugs
 - Topicals: azaleic acid, erythromycin, clindamycin
 - Oral: erythromycin, clindamycin
 - Warn against category C and D drugs
 - Topicals: BP, sulfa, retinoids, salicylic acid
 - Oral (D): tetracyclines, TMP/SMX (C/D)
 - Stay away from category X:
 - isotretinoin, spironolactone, tazorotene

Acne in Ethnic Skin

- *JAAD supplement, Feb 2002*
- Increased inflammation
 - Biopsy specimens of non-inflammatory acne lesions (e.g. comedones) showed greater *histologic inflammation* as compared to white skin!
 - Treat inflammation aggressively
 - Lower threshold for po antibiotics

Acne in Ethnic Skin

- Post-Inflammatory Hyperpigmentation



Acne in Ethnic Skin

- Post-inflammatory hyperpigmentation
 - Acquired melanin deposition secondary to inflammation
 - Prostaglandins stimulate melanogenesis
 - May be transferred to keratinocytes (epidermal), or taken up by macrophages (dermal)
 - *Benign*, but significant psychosocial impact

Acne in Ethnic Skin

- Post-inflammatory hyperpigmentation
 - Treatment
 - Slowly fades with time, but may take months to years (esp. with darker skin)
 - Must control the ongoing inflammatory process!
 - Bleaching agents
 - 2-4% hydroquinone
 - Combination therapies (retinoid, HQ, steroid)
 - Azaleic acid (anti-inflamm, anti-tyrosinase)
 - Broad spectrum sunscreen
 - Acne treatments should not irritate too much

Acne in Ethnic Skin

- Post-inflammatory hyperpigmentation
 - Treatment with bleaching agents (cont.)
 - Ideal is to control acne first to limit cont. inflamm
 - Numerous studies have supported superior efficacy of Kligman formulation with varying amounts of HQ
 - Lightening seen within 3 months
 - Side effects:
 - “Halo effect”: temporary hypo-pigmentation of adjacent skin; subsides after treatment
 - Exogenous ochronosis reported in HIGH dose HQ use

Acne in Ethnic Skin

- Pomade acne



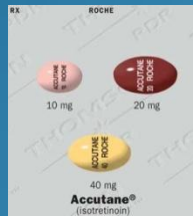
Acne in Ethnic Skin

- Pomade acne
 - A variant of *acne cosmetica* that occurs on the forehead and sides of face in African-Americans
 - Composed of closed comedones
 - Oil-based pomades known to be comedogenic
 - Existence is debated today
 - Recent survey *did* find that many people are still using hair pomades



Add c. 1943 for Aida Pomade,
"It is especially prepared for superior results in pressing hair."

Updates on Isotretinoin



Updates on Isotretinoin

- Review
 - An oral Vit A analog that works by:
 - decreases sebum production
 - shrinks sebaceous gland size
 - normalizes epithelial desquamation
 - Decreases p.acnes
 - Exact mechanism unknown, but works at the level of nuclear gene transcription



Updates on Isotretinoin

- Approved by the FDA in 1982 for the treatment of severe, nodulocystic acne
- Most effective/fewest side effects determined to be:
 - Total of 100-120 mg/kg course
 - 40-80 mg day for 5 months
- Efficacy:
 - 1/3, 1/3, 1/3...
(1998 *Archives* chart review based on close to 200 patients)

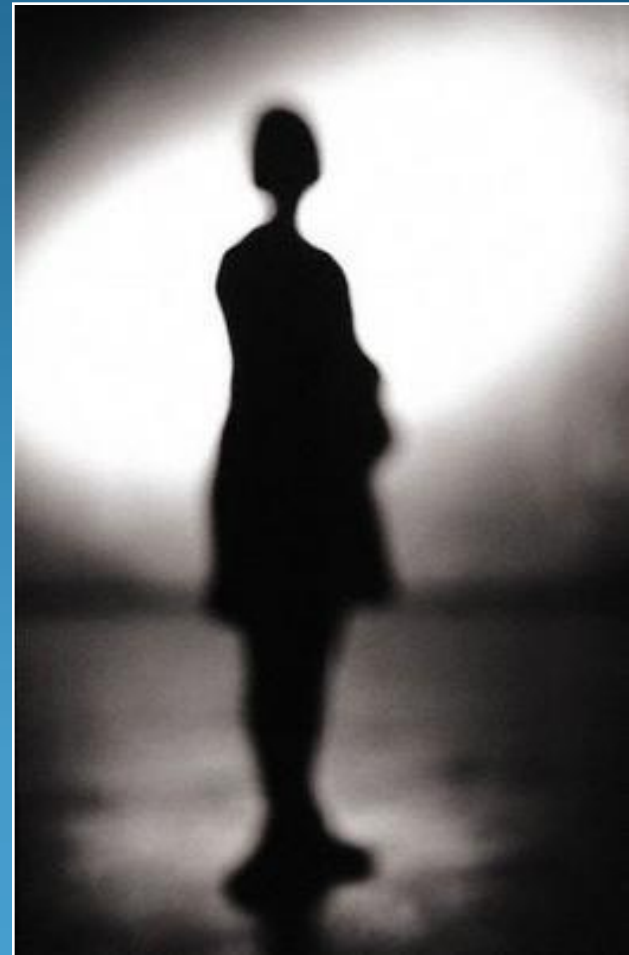


Updates on Isotretinoin

- Side effects
 - Common: generalized xerosis, mucosal dryness, muscle aches, incr. triglycerides, transaminitis
 - Less common: vision changes (e.g. night-blindness), headaches, excessive granulation tissue
 - Uncommon: pseudotumor, pancreatitis, rhabdomyolysis, (DISH)
 - *Debated...*

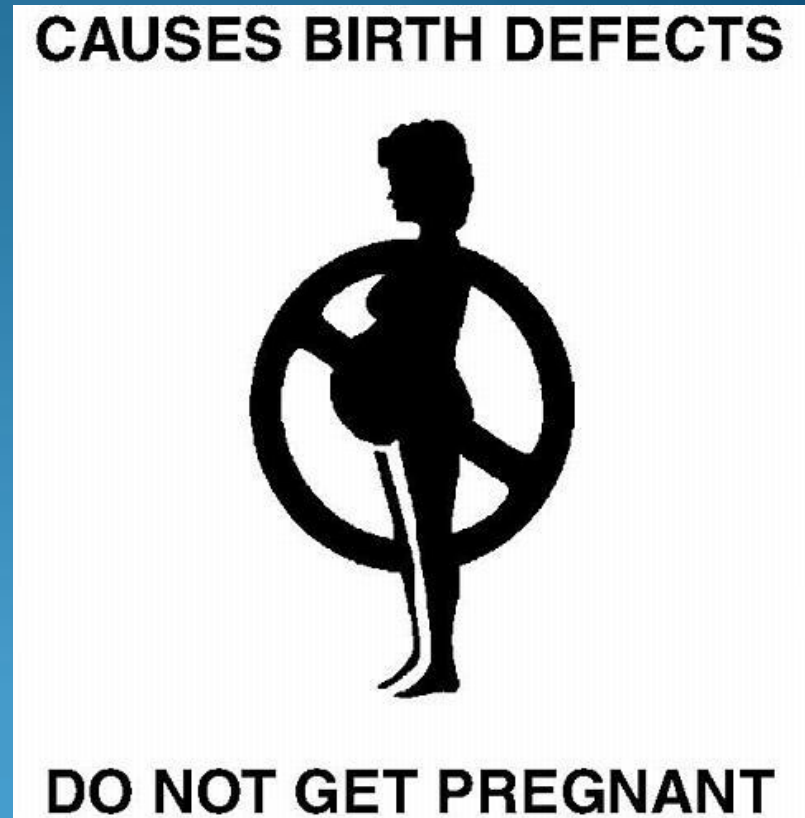
Updates on Isotretinoin

- Depression
 - Lipid-soluble, can cross into CNS
 - The data on depression varies
 - 24 reported cases in 16 years in literature
 - FDA reported close to 300 ADRs in 2000
 - One of top 10 side effects reported
 - Recent *Archives* article by Siegfried, et al. compared to traditional Rx; no increased depression!
 - Lots of media hype
 - Senator Stupak (Michigan)
 - “Plane case” in FLA



Updates on Isotretinoin

- Teratogenicity
 - Known teratogen; >40% of babies in the first tri have defects (ears, CNS, heart)
 - Current guidelines mandate 2 forms of birth control (SMART program)
 - 2 neg pregnancy tests before initiation
 - Monthly negative pregnancy tests
 - Recent study showed *not* a greatly lower rate of pregnancy since this program initiated!
 - *Archives May 2005*



Updates on Isotretinoin

CALL OUR OFFICES
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“ Hoffman La-Roche has known about the side-effects of Accutane for more than 20 years ”

“ Accutane usage has been linked to severe depression and suicide attempts ”

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Remembering Johnnie
1937 - 2005



Updates on Isotretinoin

- What do I tell patients (for what it's worth!):
 - This is a great drug, *in the right person*. After taking it for 5 months, about 1/3 of people...
 - You can expect (fill in: dryness, nose-bleeds, muscle aches, etc...)
 - If you get “the worst h/a of your life” or “belly-pain through to your back,” stop the med!
 - I am going to ask you on *each* monthly visit about the following: birth control, mood changes, hurting yourself/others

Updates on Isotretinoin

- Tell patients:
 - Don't give blood
 - Don't take extra vitamins
 - Don't get your eyebrows waxed or any re-surfacing for up to 6 months afterwards
 - Don't get pregnant for 6 weeks after therapy
 - Don't forget your appointments!

Updates on Isotretinoin

- The new iPLEDGE system
 - A national registry for isotretinoin use that goes in to full effect on Dec 31, 2005
 - The FDA statement is, “This stronger program is a major step in protecting against inadvertent pregnancy.”
 - One over-riding system that encompasses the programs of the pharmaceutical companies
 - Requires that: doctor, patient, pharmacy, wholesaler, and drug company are all REGISTERED
 - All done via computer or phone, and updated regularly (e.g. with each month’s Rx)

Update on Isotretinoin

- The new iPLEDGE system
 - We must all register at www.ipledeprogram.com
SOON
 - Once registered, you will be sent a password; residents must “generate” a user name
 - Can designate a proxy to fill in blanks for you
 - Still requires: 2 forms of birth control, regular pregnancy tests, Rx only lasts one week, stickers
 - Nothing “new” about depression/suicide, but an informed consent portion is included