Applying Evidence-Based Guidelines to Primary Care Dermatology
Friday 2:00 PM, Concurrent Session E, Workshop WE04

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Acne

Findings: Open and/or closed comedones and inflammatory lesions, such as papules, pustules, and nodules

Topical therapies:

- Topical retinoids: Reduces obstruction within follicles, useful in all forms of acne
- Benzoyl peroxide
    - Bactericidal agent often used with other oral or topical antibiotics
    - Eliminates or prevents development of *Propionibacterium acnes* (*P. acnes*) resistance
- Topical antibiotics
    - Erythromycin and clindamycin are effective and well tolerated
    - Resistance of *P. acnes* limits their use as single agents
- Salicylic acid
    - Comedolytic properties are less potent than topical retinoids
    - Reserved for patients who cannot tolerate topical retinoids because of irritancy
- Other
    - Azelaic acid has some comedolytic and antibacterial properties and is effective
    - Sulfur and resorcinol have no data to support efficacy
    - Zinc is not effective
    - Aluminum chloride has conflicting evidence

Systemic antibiotics:

- Standard of care for moderate to severe acne and treatment resistant forms of inflammatory acne
- Bacterial resistance is a problem in acne treatment, therefore antibiotics should not be used in less severe forms of acne
- Doxycycline and minocycline are more effective than tetracycline
- Minocycline is superior to doxycycline in reducing *P. acnes*
- Doxycycline is associated with photosensitivity
- Minocycline can be associated with pigment deposition in skin, mucus membranes, and teeth
- Since development of erythromycin resistance is common, it should only be used when tetracyclines are contraindicated
- Trimethoprim-sulfamethoxazole and trimethoprim alone are also effective and used as alternatives

Hormonal agents:

- Estrogen containing oral contraceptives can be useful in treatment of acne in some women
- Anti-androgenic effect via anti-gonadotropic activity and increase in SHBG, thus decreasing quantities of free testosterone
- Only some estrogen containing contraceptives are FDA approved for use in acne, but others have good evidence for effectiveness (or have not been studied)

Isotretinoin: Reserved for nodulocystic acne only through a physician registered with iPLEDGE

Acne guidelines:

- Pawin H, Beylot C, Chivot M, Faure M, Poli F, Revuz J, Dréno B. Physiopathology of acne vulgaris: recent data, new understanding of the treatments. Eur J Dermatol. 2004;14:4-12.
- Strauss JS, Krowchuk DP, Leyden JJ, Lucky AW, Shalita AR, Siegfried EC, Thiboutot DM, Van Voorhees AS, Beutner KA, Sieck CK, Bhushan R; American Academy of Dermatology/American Academy of Dermatology Association. Guidelines of care for acne vulgaris management. J Am Acad Dermatol. 2007;56:651-63.

Actinic keratosis

Findings: Keratotic macules, plaques or papules. The lesions are superficially scaly with a red base and occur in areas of extensive sun damage, especially on the face, scalp, and dorsal hands

Commonly confused: Difficult to predict which lesions will become invasive and convert to squamous cell carcinomas (SCC), and which ones will resolve (12% of AKs resolve). Shave biopsy is the diagnostic test of choice to determine if SCC exists

Primary care treatments include: Monitoring, patient education, emollients, sun block, cryotherapy

Dermatology treatments include: 5-fluorouracil, imiquimod, retinoids, diclofenac gel, photodynamic therapy. There are no studies indicating which one is the best

Refer to dermatology for:

- Multiple lesions, since the entire area can be treated with one agent
- High risk patients where invasive lesions are more likely
- Lesions at locations where there is a high risk of metastasis from SCC (lip, ear, eyelid)
- Areas that are difficult to treat (inner ear and close to the eye)

Actinic keratosis guidelines:

- deBerker D, McGregor JM, Hughes BR; British Association of Dermatologists Therapy Guidelines and Audit Subcommittee. Guidelines for the management of actinic keratoses. Br J Dermatol. 2007;156:222-30.
- Stockfleth E, Kerl H; Guideline Subcommittee of the European Dermatology Forum. Guidelines for the management of actinic keratoses. Eur J Deramatol. 2006;16:599-606.
- Stockfleth E, Ferrandiz C, Grob JJ, Leigh I, Pehamberger H, Kerl H; European Skin Academy. Development of a treatment algorithm for actinic keratoses: A European Consensus. Eur J Dermatol. 2008;18:651-9.

Contact dermatitis

Findings: Acute changes involve erythema and vesiculation, chronic changes are lichenified and dry

Commonly confused conditions: *Irritant contact dermatitis* (ICD) can be confused with *allergic contact dermatitis* (ACD). ICD results from agents chemically abrading or damaging the skin. Agents implicated include detergents, solvents and soaps, dry air, dusts and heat. ACD occurs from activated immune responses. Causes commonly include nickel, topical antibiotics, and cosmetic ingredients, among many others. The most common cause of ACD in the US is fragrances

Evaluation: Use of the physical exam is important in the diagnosis, since the chief area of involvement and the distribution indicate area of contact with the allergen or irritant. However, physicians accurately determine only about 10-20% of the allergens when relying solely on the history and physical

Occupations with the highest incidence of contact dermatitis include:

- Health professionals (especially nurses)
- Food processors
- Hairdressers and beauticians
- Machinists and construction workers

Location	Source of dermatitis*	Strength of recommendation
Eyelids	Most often due to products on hands, face and hair	A
Face	Cosmetics and fragrances are the most common causes	B
Scalp	Parapheylenediamine (found in hair dye)	B
Lips (angular cheilitis)	Lip sticks/balms	C
Mouth (recurrent ulcers)	Chewing gum and denture adhesives (cinnamon and peppermint)	B
Hands	Irritant and allergic commonly confused	B
Neck	Hair treatments, fragrances, nickel in jewelry	A
Axilla	Products directly applied to the skin when the entire vault is involved, clothing when the apex of the vault is spared	B
Anogenital	Topical medications, suppositories, douches, latex condoms and diaphragms, spermicides, lubricants, sprays, cleansers	B
Legs	When stasis dermatitis is present, it is easier for allergens to penetrate skin	B

*While many products can be labeled as “non-allergenic” or “hypoallergenic,” this may not be true. “Unscented” does not mean “fragrance free”

Treatment	Features	Strength of recommendation
Removal, protection, substitution	Effective for ICD and ACD	A
Cold compresses, colloidal baths, emollients	Transient relief	C
Topical T-cell inhibitors	Efficacy not established	A
Antihistamines	Generally ineffective	C
Topical corticosteroids	Ineffective in ICD, useful in ACD Expert recommendation: start with high potency, reduce to lower potency when improved	A
Systemic corticosteroids	Relief in 12-24 hours Expert recommendation: Use if >20% body involved Start with 0.5-1 mg/kg for 1 week, taper the following week if improved	A
Secondary prevention	Emollients, moisturizers, barrier creams	C

Refer to dermatology: When a patient has developed a chronic picture of lichenification with pruritus, it is appropriate to refer the patient for patch testing. Patch testing sensitivity is 70% and specificity is 80%

Strength of recommendation:

- A: Based on meta-analyses or at least one randomized controlled trial
- B: Based on at least one controlled study
- C: Based on evidence from non-experimental, descriptive studies
- D: Expert committee reports or opinions

Contact dermatitis guidelines:

- Beltrani VS, Bernstein IL, Cohen DE, Fonacier L. Contact dermatitis: a practice parameter. Ann Allergy Asthma Immunol. 2006 Sep; S1-38.
- Bourke J, Coulson I, English J; British Association of Dermatologists Therapy Guidelines and Audit Subcommittee. Guidelines for the management of contact dermatitis: an update. Br J Dermatol. 2009 May;160(5): 946-54.

Psoriasis

Findings: Classic lesions consist of discrete erythematous plaques with silvery scaling. Typical sites include the extensor elbows and knees as well as the scalp. Variants include guttate, pustular, inverse, and erythrodermic. Nails are commonly involved

Common comorbidities:

- Depression
- Tobacco abuse / COPD
- Alcohol abuse
- Obesity / Metabolic syndrome / Diabetes mellitus
- MI (in severe psoriasis = 10% total body surface area or prior systemic treatment)
    - 4 years less in life expectancy
- About 15% of patients develop psoriatic arthritis
    - Every psoriasis patient should be screened for psoriatic arthritis

Topical treatments: usually sufficient for mild disease and should be continued in severe cases to decrease the dose of additional, more risky, treatments

- Many emollient preparations are available, and these should always be used topically as an adjunct to other therapies. The greasier the better
- Topical medicines come in a variety of vehicles. The optimal vehicle is one that the patient will use. In general, liquids and foams are ideal for the scalp. Ointments work best on most body surfaces, but compliance with cream can be better
- Topical corticosteroids: mainstay of psoriasis therapy, especially for mild disease, but also as a useful adjunct for other therapies. Useful for rapid response in small areas for short periods. Increased local side effects when used on thin skin, such as face, genitalia, and intertriginous areas
- Potent steroids (e.g. fluocinonide) are needed for thick skin, such as hands, feet, and back. Medium strength steroids (e.g. triamcinolone) are used for skin folds and the scalp. Mild steroids (e.g. hydrocortisone) are reserved for the face and genitalia
- Ultra potent steroids (e.g. clobetasol, halobetasol, augmented betamethasone dipropionate) are only safely used on thick skin, have more risks of local side effects, and are best reserved for specialist use
- After clinical response is achieved, a gradual reduction in potency or frequency is recommended
- Common approaches to minimize side effects of topical corticosteroids: transition to weaker potency agents after improvement, intermittent usage (e.g. weekends only), and combination with other agents
- Calcitriol and calcipotriene: vitamin D derivatives, may cause mild perilesional irritation, enhance the efficacy of topical corticosteroids, ideal for psoriasis maintenance because of low side effect profile

- Coal tar: mostly of historical interest because of poor efficacy, odor, and messiness, although it has mild efficacy in shampoos and may enhance efficacy of phototherapy
- Anthralin: irritating and stains surfaces, thus it is rarely used; may be used with phototherapy
- Tazarotene: retinoid that enhances efficacy of topical corticosteroids, very irritating when used alone
- Tacrolimus and pimecrolimus: calcineurin inhibitors, used for treating psoriasis on sensitive areas, such as the face, as an alternative to topical corticosteroids; may cause burning and itching of the skin, although this improves with ongoing use; not FDA approved for psoriasis

Refer to dermatology or rheumatology for:

- Severe and / or recalcitrant disease
- Suspicion of psoriatic arthritis
- Phototherapy: second-line treatment only in special centers; no efficacy for arthritis
- Systemic drugs: third-line treatments for psoriasis; many help both psoriasis and psoriatic arthritis

Psoriasis guidelines:

- Kimball AB, Gladman D, Gelfand JM, Gordon K, Horn EJ, Korman NJ, Korver G, Krueger GG, Strober BE, Lebwohl MG; National Psoriasis Foundation. National Psoriasis Foundation clinical consensus on psoriasis comorbidities and recommendations for screening. J Am Acad Dermatol. 2008;58:1031-42.
- Menter A, Korman NJ, Elmets CA, Feldman SR, Gelfand JM, Gordon KB, Gottlieb A, Koo JY, Lebwohl M, Lim HW, Van Voorhees AS, Beutner KR, Bhushan R; American Academy of Dermatology. Guidelines of care for the management of psoriasis and psoriatic arthritis. Section 3. Guidelines of care for the management and treatment of psoriasis with topical therapies. J Am Acad Dermatol. 2009;60:643-59.
- Zeichner JA, Lebwohl MG, Menter A, Bagel J, Del Rosso JQ, Elewski BE, Feldman SR, Kircik LH, Koo J, Gold LS, Tanghetti E; Psoriasis Process of Care Consensus Panel. Optimizing topical therapies for treating psoriasis: a consensus conference. Cutis. 2010;86:5-31.

Urticaria

Findings: Red, raised, itchy rash resulting from vasodilation, increased blood flow and vascular permeability

- Lesions arise spontaneously, peak between 8-12 hours, and move around
- Angioedema involves submucosa, deeper reticular dermis and subcutaneous - can persist for days
- Urticaria alone (50%) / Urticaria and angioedema together (40%) / Angioedema alone (10%)

Acute urticaria: Single episode lasting less than 6 weeks
Chronic urticaria/angioedema: Daily symptoms lasting more than 6 weeks

- Autoimmune urticaria/angioedema accounts for about 30-50% of chronic urticaria and may be associated with other autoimmune conditions, such as thyroiditis
- Autoimmune and some physical urticarias are more resistant to treatment and can follow a protracted course

Episodic acute intermittent urticaria/angioedema: Lasting hours or days and recurring over months or years

Food can usually be excluded as a cause of urticaria/angioedema if there is no temporal relationship to a particular food trigger either by contact or ingestion. Food additives/preservatives/dyes do not cause urticaria/angioedema by an IgE mediated mechanism

Treatment: Includes trigger identification and avoidance, patient education, individualized treatment plans

Types of physical urticarias and triggers:

o Dermatographism	Minor trauma
o Cholinergic	Exercise / emotion
o Delayed pressure	Tight clothing, jogging, sitting, lying
o Cold	Cold wind, swimming in cold water
o Exercise	Physical exertion
o Aquagenic	Contact with hot or cold water
o Solar	Sunshine
o Vibratory	Use of vibratory tools

Drug induced urticaria: Consider aspirin and other NSAIDS, antidepressants, statins (ACE inhibitors usually cause angioedema without urticaria)

Contact- IgE mediated allergic: Consider latex, food and animals

Symptom control:

- Antihistamines active against H1 receptor (Grade of recommendation A = based on high-quality meta-analyses, randomized controlled trials (RCTs) or systematic reviews of the same)
    - Second generation antihistamines to avoid crossing blood brain barrier
    - If symptoms persist consider increasing dose above normal recommendation (Grade of recommendation B = based on high-quality case control or cohort studies or systematic reviews of the same)
    - Once symptoms control established - empiric treatment for 3-6 months or 6-12 months if urticaria with angioedema or longstanding urticaria
    - To discontinue - gradual withdrawal over weeks
    - One trial shows benefit of cetirizine (10 mg) over fexofenadine (180 mg)
    - Trials also suggest that cetrizine has greater sedative effect than fexofenadine
    - If an antihistamine is needed during pregnancy, the lowest dose of chlorphenamine or loratadine should be used
    - If an antihistamine is needed during breast feeding, it is recommended that either loratadine or cetirizine be taken at the lowest effective dose
- Short course of systemic corticosteroids may be appropriate in severe episodes at any stage (prednisone 40 mg daily for up to 7 days)
- Other options include: Leukotriene receptor antagonist in combination with second generation antihistamine, cyclosporine, tacrolimus, tranexamic acid, H2 blockers

Refer to dermatology or allergy for:

- Patients who do not respond to antihistamines or standard second line treatments

Urticaria guidelines:

- Powell RJ, Du Toit GL, Siddique N, Leech SC, Dixon TA, Clark AT, Mirakian R, Walker SM, Huber PA, Nasser SM; British Society for Allergy and Clinical Immunology (BSACI). BSACI guidelines for the management of chronic urticaria and angio-oedema. Clin Exp Allergy. 2007;37:631-50.
- Zuberbier T, Asero R, Bindslev-Jensen C, Walter Canonica G, Church MK, Giménez-Arnau AM, Grattan CE, Kapp A, Maurer M, Merk HF, Rogala B, Saini S, Sánchez-Borges M, Schmid-Grendelmeier P, Schünemann H, Staubach P, Vena GA, Wedi B; Dermatology Section of the European Academy of Allergology and Clinical Immunology; Global Allergy and Asthma European Network; European Dermatology Forum; World Allergy Organization. EAACI/GA(2)LEN/EDF/WAO guideline: management of urticaria. Allergy. 2009;64:1427-43.