PEDIATRIC DERMATOLOGY The Latest in **PEDIATRIC DERMATOLOGY**:

ASTERS OF

FROM INFANTS TO ADOLESCENTS

Pediatric Skin of Color Symposium

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Disclosure

I have no conflicts of interest

Vitiligo- Learning Objectives

- Review current and emerging treatments for pediatric patients
- Recognize the ways in which vitiligo patients with darker pigmented skin are affected in terms of managing their skin

Vitiligo

- Autoimmune disease in which cutaneous depigmentation occurs
- Existing therapies are inadequate and limited



Vitiligo- workup in children

- Other autoimmune diseases and endocrinopathies
 - Further testing may be necessary in patients with suggestive signs or symptoms to rule out an underlying condition
 - Thyroid disease, diabetes mellitus, pernicious anemia, Addison disease, alopecia areata

Conventional Treatments

- Corticosteroids (TCs)
- Calcineurin inhibitors (TCIs)
- Systemic corticosteroids (SCs)
- Phototherapy



Unconventional Therapy

- Melagenina
- Alcoholic extract of human placenta
- Said to produce proliferation of melanocytes and enhance melanogenesis in vitiligo skin

Azambuja RD. Melagenina and Vitiligo. Letter to the Editor Dermatology 1992:184;153-160





Psychosocial Impact-Indian patients

- Semi-structured interviews conducted in 50 patients with vitiligo
- Aim: determine the beliefs about causation, aspects of the disease that cause concern, effects of disease on the patient's life

Pahwa P, Mehta M, Khaitan B, et al. The psychosocial impact of vitiligo in Indian patients. Indian J Dermatol Venereol Leprol. Sept-Oct 2103;79(5);679-85



Vitilgo- Range of Concerns

- Physical appearance
- Progression onto exposed skin/whole body
- Ostracism
- Social rejection
- Dietary restrictions





• Difficulty in getting jobs

• Significant barrier to getting married

Pahwa P, Mehta M, Khaitan B, et al. The psychosocial impact of vitiligo in Indian patients. Indian J Dermatol Venereol Leprol. Sept-Oct 2103;79(5);679-85



Psychosocial Impact-Vitiligo Indian patients

- The condition was perceived to be a serious illness
- Multiple medical consultations were frequent •
- Stigma and suicidal ideation was reported.
- Problems perceived to be more severe in women

Pahwa P, Mehta M, Khaitan B, et al. The psychosocial impact of vitiligo in Indian patients. Indian J Dermatol Venereol Leprol. Sept-Oct 2103;79(5);679-85

Psychological Considerations

- Camouflaging cosmetics
- Depigmentation therapies



- CovermarkDermacolor
- Keromask
- Veil
- Vichy (Dermablend)





https://vitiligosociety.org/skincamouflage



https://vitiligosociety.org/skincamouflage



Depigmentation Therapies for Vitiligo

- Monobenzyl ether of hydroquinone (MBEH)
- Phenol 88%
- 4-methoxphenol (4MP, mequinol, p-hydroxyanisol)
- Physical therapies (cryotherapy and lasers)

Grimes PE, Nashawati R. Depigmentation Therapy for Vitiligo. Dermatol Clin 35 (2017);219-227



Emerging Therapy

- Ruxolitinib (JAK1/JAK2 inh) *both adolescent and adults
- Ritlecitinib (PF-06651600) (JAK3/TEC inhibitor)
- Brepocitinib (PF-06700841) (TYK2/JAK1 inhibitor)
- Cerdulatinib (t JAK/Syk inh)



Non-segmental Vitiligo Studies

- Phase 2b (NCT03715829) evaluating the safety and efficacy of ritecitinib and brepocitinib
- Randomized, double blind, parallel group, multi center, dose-ranging study
- Partially blinded extension period



Photo living

A Final Note - on Access

- About 45% of children nationally (higher in some states) are on Medicaid plans (under CHIPS Act)
- Despite the fact that vitiligo has a QoL impact greater than many systemic diseases, it is rarely considered by third-party payors who tend to treat vitiligo as a cosmetic rather than a medical issue, thereby disproportionately impacting persons of color

Personal communication Lionel Bercovitch, MD



Vitiligo Support

- Vitiligo Research Foundation
- "Famous Vitiligans"



Atopic Dermatitis- Learning Objectives

- Review current and emerging AD treatments for pediatric patients
- Recognize the ways in which pediatric AD patients with SOC are affected in terms of managing their condition

or pediatric patients ents with SOC are

Disclosures

- Regeneron and Sanofi Genzyme Speaker
- Pfizer- Speaker and SOC advisory board

Atopic Dermatitis

- A chronic, relapsing, inflammatory condition
- 18 million Americans
- 9.6 million children (~15% of children in USA)
- Sleep disturbance (47-60%) increased reports of suicidal ideation among adolescents with AD

Eczema Statistics Allergy & Asthma Network. September 2020

AD: Psychosocial Impact

- AD can negatively impact QoL of both the child and family
- Sleep disruption, poor mood
- Low self esteem
- Parental self-blame and guilt

Chamlin SL, et al. Pediatrics 2004

Atopic Dermatitis

- AD disproportionally affects Black children
- Among US children, more likely to suffer from AD and more likely to seek medical care for AD
- More disfiguring in SOC patients (hypo/hyper-pigmentation)
- Challenges in diagnosing and treating in pediatric SOC patients

Kim Y, et.al. Racial/ethnic differences in incidence and persistence of childhood atopic dermatitis. J Invest Dermatol. 2019 Apr:139(4):827-834 Delzell, E. Everything you need to know about eczema in skin of color. National Eczema Association 2020





Pityriasis Alba

- Common benign condition
- Seen in children with atopic dermatitis
- Good counseling
- Reassurance not vitiligo
- Sensitive to culture



Pityriasis Alba

DDx: Vitiligo, PIH secondary to AD, TV, ash leaf macules, CTCL, Hansen's disease, psoriasis, PR or tinea corporis

Tx: emolliation, mild TS, CI, photoprotection





Papular Atopic Dermatitis



AD: Acute Flare







AD: Pathogenesis

Complex, multifactorial, poorly understood

Endogenous factors:

- Genetic predisposition
- Defective skin barrier
- Abnormal innate immunity
- Immunologic abnormalities

Interaction with exogenous factors

Immune Response

• Acute AD characterized by Th2 immune response

- IL-4, IL-13
- Drives IgE synthesis

Atopic Dermatitis Treatment Overview

Step 4: Phototherapy, SCs, systemic immunomodulators

Step 3: Higher potency topical steroids, wet dressings, oral antihistamines, evaluate and treat for secondary infection

Step 2: Topical steroids (TCs), Calcineurin inhibitors (TCIs), phosphodiesterase-4 inhibitor

Step 1: Education, bathing, gentle skin care, moisturizing, avoidance of triggers





Therapies for recalcitrant AD

- Phototherapy
- Cyclosporin
- Azathioprine
- Mycophenolate mofetil
- Methotrexate

Periocular Involvement



Topical Calcineurin Inhibitors (TCIs)

- Topical immunosuppressive agents that inhibit T cells
- Pimecrolimus cream1%
- Tacrolimus ointment 0.03% and 0.1%
- Approved for treatment of AD in patients at least 2 years of age

Phosphodiesterase-4 Inhibitor

- FDA approved December 2016
- Non-steroidal
- Crisaborole ointment 2% •
- Approved for treatment of mild-moderate AD in patients 3 months of age and older

Side Effects

- Common side effects: burning, stinging
- Does NOT cause: atrophy, telangiectasia, hypopigmentation

Infection triggers AD flares and makes AD more difficult to treat

AD: Treating Infection

Culture (Bacterial, Viral DFA)

Bacterial

- . Topical : mupirocin, ozenoxacin
- . Liquid: Cephalexin
- . Pills: Cephalexin or Dicloxacillin
- . Clindamycin, Sulfamethoxazole-Trimethoprim, Doxycycline if concerned about MRSA
- . Treat 7-14 days
- Continue to treat skin as well!



Dupilumab

- Currently, only one systemic biologic drug FDA approved
- Targets IL-4 and IL-13
- Dupilumab injection 200mg and 300mg
- First biologic approved for children aged 6 years and older with uncontrolled moderate to severe AD

On the Horizon

- Tralokinumab (12-17 years) Phase 3 clinical trial
- Upadacitinib
- Abrocitinib
- Ruxolitinib (12 years and older)
- Baricitinib (ages 2 and up)







5 year old female with pustules on scalp



T. Alopecia- Clinical Findings

- Short, thinning hair at frontal hairline or between braids
- Papules
- Perifollicular erythema & Pustules (traction folliculitis)





Fox GN, Stausmire JM, Mehregan DR. Traction Folliculitis: An Underreported Entity. Highlighting Skin of Color Cutis. 2007;79:26-30

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Tinea capitis with pustules



Tinea capitis with kerion



- African American Females
- Induced by tight braids held with elastic bands
- Outermost hairs of braid usually affected



- Vellus hairs remain, loss of terminal hair
- Early disease...reversible
- Late disease...permanent hair loss



- Increasing prevalence with age demonstrated
- Study of 1042 school children (ages 6 to 21 years) in South Africa
- 9% in girls First year of school (age 6 to 7 years)
- 22% in girls Last year of high school (17 to 21 y)

Khumalo NP, Jessop S, Gumedze F, Ehrlich R. Hairdressing is associated with scalp disease in African schoolchildren. Br J Dermatol 2007;157:106.

- In women, favors frontotemporal area
- May be lag of years between insult and hair loss
- Biphasic hair loss: initially non-cicatricial with regrowth possible, as progresses becomes permanent



Treatment

Early-stage

- Loosen braids or pony-tail
- Topical minoxidil
- Local corticosteroids
- Oral antibiotics

Late-stage

- Cosmetic camouflage
- Hair transplantation

