Photodermatoses: Diagnosis and Management

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Disclosure

• *Investigator:*
  - Estée Lauder
  - Ferndale
  - Allergan
  - Incyte
Learning Objectives

• Recognize important and new development in photodermatoses
• Diagnose and manage patients with photodermatoses
National Geographic.
July 2004
Photodermatoses

- Polymorphous light eruption
- Actinic prurigo
- Hydroa vacciniforme
- Chronic actinic dermatitis
- Solar urticaria/solar angioedema
- Drug-induced photosensitivity
- Erythropoietic protoporphyria

Photodermatoses

• Polymorphous light eruption

PMLE

Kontos, A, Photodermatol Photoimmunol Photomed, 12/02; 18:303
10 yo. PMLE

Courtesy of Tor Shwayder, MD
Juvenile Spring Eruption: a variant of PMLE

Chantron, Lim, Shwayder. JAAD 12/12; 67:1093 and 1113.

Courtesy of Tor Shwayder, MD
Phototesting is usually normal

However, 39% (945 of 2432) pts had abnormal phototest results
PMLE: Pathophysiology
(van de Pas, CB. JID 2/04; 122:295. London)

• PMLE patients are more resistant to UV-induced immunosuppression
PMLE: Treatment

- Seek shade
- Broad spectrum sunscreens
- NB-UVB
- Oral corticosteroid
- Hydroxychloroquine (200 mg bid)
- Azathioprine (2-2.5 mg/kg/d)
- ? Polypodium leucotomos (480-1200 mg/d)
Photodermatoses

- Polymorphous light eruption
- Actinic prurigo
Actinic Prurigo

• Familial (75%) American Indian
• Female: male = 3:1
• Photosensitivity usually to UVA
• Face, nose, ears
• Chelitis, conjunctivitis, photophobia
Actinic prurigo
Courtesy of Tor Shwayder, MD
Henry Ford Hospital, Detroit
Courtesy of
Juan Carlos Diez de Medina, MD,
Bolivia
Actinic Prurigo. 11 yo girl.
Greatgrandmother: Am Indian

*Henry Ford Hosp., Detroit*

[Courtesy of Marta Valbuena, MD, Bogota, Colombia]
Actinic Prurigo: Treatment
(Valbuena, M, Lim, HW. Clin Decision Support: Dermatology. 2012)

- Photoprotection
- Move to lower altitudes if possible
- Topical and oral corticosteroids
- NB-UVB, PUVA
- Thalidomide (100-200 mg/d)
- ? TNF-α inhibitor
Photodermatoses

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- Hydroa vacciniforme
Hydroa Vacciniforme
(Chantron, R, Lim, HW, Shwayder, T. JAAD 12/12; 67:1093 and 1113. Detroit)

• Childhood onset
• Vesicles on sun exposed skin → scarring
• Improves in adolescence
• Rare: adult-onset; familial.
• ↓ MED-A, rarely ↓ MED-B
• Positive provocative test with UVA
• Tx: Hydroxychloroquine, UVB, PUVA
Hydroa Vacciniforme
Hydroa Vacciniforme

(Courtesy of Tor Shwayder, MD)
Hydroa Vacciniforme

(Courtesy of Tor Shwayder, MD)
Hydroa Vacciniforme
(G. Gupta, JAAD 2/2000; 42:208)

• Spontaneous clearing: 60% in 9 yrs (M: 11 yrs, F: 5 yrs)
• 53%: Abnormal response to UVA
  40%: Positive provocative testing to UVA
• 3/5 pts: Benefited from NB-UVB
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Chronic Actinic Dermatitis

Diagnostic Criteria

- Chronic photodermatitis
- Low phototest results to UVA &/or to UVB &/or to visible light
- Histology:
  - dermal lymphohistiocytic infiltrate
  - +/- epidermal spongiosis
  - +/- atypical mononuclear cells
Chronic actinic dermatitis
Chronic actinic dermatitis
Chronic Actinic Dermatitis
Chronic actinic dermatitis: Acute flare
CAD: Treatment

- Sunscreen, sun protection
- Topical tacrolimus
- Mycophenolate mofetil
- Azathioprine
- Oral corticosteroids (for flares)
- Cyclosporine
- Hydroxychloroquine
- Hydroxyurea
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Solar Urticaria

Driving x 1 hr (windshield, Solumbra shirt)
Solar Urticaria

Immediate

24 hrs
Solar Urticaria: Action Spectrum

- Visible
- UVA
- UVB
Solar Urticaria: Therapy

(Dawe RS, BJD 7/97; 137:144;
Calzavara-Pinton P. JAAD 2012 Jul;67(1):e5-9)

• Antihistamine
• UVA (or UVA1)
  – Start with 50-70% MUD, increase by 10-15%;
  – Exposed area only;
  – Daily for 15-20 tx;
  – 2-3 x wk for rest of sunny months
• Cyclosporine (3-5 mg/kg)
• IVIg (400 mg/kg/d x 5 d = 2 gm/kg)
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- Drug-induced photosensitivity

Drug-induced Phototoxicity
(Kim, WB, … Lim, HW, Glassman, SJ. JAAD. 7/10/18 Epub. Ottawa, Detroit)

• Systematic review of phototoxicity for oral drugs; May 1959 – Dec 2016
• Medications supported by strong evidence:
  — Vemurafenib (BRAF inhibitor for metastatic melanoma)
Vemurafenib – Phototesting

(Dummer, R. NEJM 2/2/12; 366:480-481. Zurich)

UVB (8-99 mJ/cm²)

UVA (10-40 J/cm²)

Action spectrum: UVA
Drug-induced Phototoxicity

(Kim, WB, … Lim, HW, Glassman, SJ. JAAD. 7/10/18 Epub. Ottawa, Detroit)

• Systematic review of phototoxicity for oral drugs; May 1959 – Dec 2016
• Medications supported by strong evidence:
  — Vemurafenib (BRAF inhibitor for metastatic melanoma)
  — NSAIDs
  — Antibiotics (fluoroquinolones, tetracyclines)
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EPP
Afamelanotide for EPP: EU & US


• EU + US: 168 pts. Subcut monthly implant.
• Duration of pain-free time following sun exposure was longer in the treatment gr.
• Improved quality of life
• Adverse effects: headache, nausea, nasopharyngitis, and back pain
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