Cases in Dermatology

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I have no conflicts of interest to declare for this presentation
News of the day!

Viagra for women?
12 Cases

- Clinical diagnosis of common rashes
- Topical corticosteroids
- Skin biopsy for rash
- Drug reactions
- Pruritus
- Psychocutaneous disease
Monday 7.30am
Case #1

- “I’ve got a rash”
- “I’ve had it for years, but I decided to come in today”
- “Make it go away”
- “Now..”
Differentials

- Drug eruption
- Tinea corporis
- Eczema
- Psoriasis
Diagnosis?

- Drug eruption
- Tinea corporis
- Eczema
- **Psoriasis**
Well-demarcated erythematous scaly plaques
Chronic Plaque Psoriasis
Guttate psoriasis

- Common in children and young adults
- >50% have preceding Strep infection
- May regress in children in months
- More likely to become chronic in adults
- Responsive to phototherapy
Psoriasis Take Home Point

- Check for recent Streptococcal infection if one sees guttate psoriasis

- Empiric antibiotics for Streptococcal related guttate psoriasis

Treatment options

- **Topicals**
  - Corticosteroids
  - Vitamin D analogues (calcipotriene)
    - hypercalcemia

- **Phototherapy (PT)**
  - Narrowband UVB
  - Potential risk of skin cancer
  - Inform patients on PT about medications that cause photosensitivity
Treatment options

- Systemic
  - Biologics
    - TNF-alfa inhibitors (etanercept, adalimumab, infliximab)
    - IL-17 (ustekinumab, secukinumab)
  - Methotrexate, apremilast, cyclosporine

- Potential risks related to immunosuppression
  - Infection
  - Malignancy
Monday 7.45am
Case #2

- “I’ve got a rash”
- “Make it stop itching”
Differentials

- Drug eruption
- Tinea corporis
- Eczema
- Psoriasis
Diagnosis?

- Drug eruption
- Tinea corporis
- Eczema
- Psoriasis

- Nummular dermatitis / nummular eczema
Treatment

- Topical corticosteroids
- Emollients
  - Ointments > creams > lotions
- Use fragrance free products
- Vitamin P (Prednisone) is only for rescue treatment
Topical corticosteroids

- 7 classes - Superpotent (class 1) → Low potency (class 7)
- Superpotent (class 1):
  - Clobetasol, betamethasone dipropionate ointment
- High potency (class 2-3):
  - Betamethasone dipropionate cream, fluocinonide, triamcinolone 0.1% ointment
- Medium potency (class 4-5):
  - Triamcinolone 0.1% cream, betamethasone valerate, hydrocortisone butyrate and valerate
- Low potency (class 6-7) - face, skin fold, young children:
  - Desonide, triamcinolone 0.025%, hydrocortisone 1% or 2.5% cream
Complications of topical corticosteroids

Cutaneous atrophy
Complications of topical corticosteroids

Steroid induced acne
Corticosteroids Take Home Point

- Avoid potent topical corticosteroid use on face, eyelids and skin fold areas

- Avoid potent topical corticosteroid use in infants and young children
Atopic Dermatitis
Keratosis Pilaris

Pityriasis alba
Treatment for atopic dermatitis

- Topical corticosteroids
- Emollients
  - Ointments > creams > lotions
- Use fragrance free products
- Vitamin P (Prednisone) is only for rescue treatment
Topical calcineurin inhibitors

- Tacrolimus
  - For moderate to severe atopic dermatitis

- Pimecrolimus
  - For mild to moderate atopic dermatitis

- FDA warning: Cancer risk
- Do not use in children younger than 2 years
Complications of atopic dermatitis

Impetigo

Eczema herperticum
Stasis Dermatitis
Treatment

- Topical corticosteroids
  - Medium to Super Potent topical steroids

- Emollients

- External compression / Leg elevation

- Diuretics

- Vitamin P (Prednisone) for rescue
Monday 8.00am
Case #3

- “I’ve got a rash”
- “I’m not sure what happened”
- “I got my shingles vaccine last week, and I bet that’s the reason”
- She starts crying because the rash is so bad
Differentials

- Atopic dermatitis
- Contact dermatitis
- Dermatomyositis
- Reaction to zoster vaccination
- Too much crying
Contact dermatitis

- Tedious history
  - Her grand-daughter started doing her nails about 1-2 months ago

- Delayed type IV hypersensitivity reaction

- Weeks to months to years of exposure
Diagnosis of contact dermatitis

- History for potential contact allergen
- Patch testing (not skin prick tests)
- Avoidance of allergen
Dermatomyositis
Dermatomyositis associations

-Interstitial lung disease

-Cardiac conduction defects

-Malignancy, especially genitourinary and colon cancer

-Overlap with rheumatoid arthritis, systemic lupus and scleroderma
Dermatomyositis Take Home Point

- Eyelid and hand rashes are common, and dermatomyositis is uncommon
- Cutaneous signs of dermatomyositis are subtle
- One would only see cutaneous signs of dermatomyositis if one thinks of or looks for it
Monday 8.15am
Case #4

- College student

- Very healthy

- “I’ve got a new rash”

- “I’ve got a new girlfriend and I think I got it from her”
Differentials

- Scabies!
- Scabies!
- Scabies!
Diagnosis?

- Pityriasis rosea

- Self-limited (usually 6 to 8 weeks)

- Seen primarily in adolescents and young adults, favoring the trunk and proximal extremities

- Needs follow up if persists beyond 3 to 4 months
Tinea versicolor
Spaghetti and meatballs
Oral ketoconazole Take Home Point

- FDA warning issued in 2013 regarding potentially fatal liver injury requiring transplantation
  - Adrenal insufficiency and drug interactions

- Limit use to patients who do not have option of taking alternative antifungals
Scabies
Scabies treatment

- Permethrin 5% cream
  - Applied overnight to entire body surface
  - Head to toe for infants and elderly
  - Can be used during pregnancy (2 hours)
  - Repeat in a week

- Wash all clothes, linens and towels used in the past week with hot water and dried in high heat
  - Store in bag for 10 days

- Asymptomatic mite carriers
  - Household and close contacts should be treated even if asymptomatic
  - Pets do not have to be treated
Scabies treatment

- Ivermectin (200 to 400mcg/kg) 2 doses, 2 weeks apart (off label use)
  - Blocks glutamate and GABA neurotransmission causing paralysis in ectoparasites
  - Affects peripheral motor function in insects

- Blood brain barrier in humans protects against neurotoxicity in CNS
- Inadequate blood brain barrier in fetuses and early infancy
- Avoid in early infancy (<15kg), pregnant women and breastfeeding mothers
Scabies Take Home Point

- Remind patients that rash and pruritus from can last for 2 to 4 weeks after successful treatment
Skin biopsy for rash

- Case 1: Psoriasis - psoriasiform or spongiotic dermatitis
- Case 2: Nummular dermatitis / Atopic dermatitis / Stasis dermatitis - psoriasiform or spongiotic dermatitis
- Case 3: Contact dermatitis - spongiotic dermatitis
- Case 4: Pityriasis rosea / scabies - spongiotic dermatitis

A skin biopsy, in the last 4 cases, would have shown the similar pathologic findings under the microscope.
Skin biopsy for rash

- A dermatopathologist will report the pattern of inflammation seen
  - Spongiotic, psoriasiform, interface, granulomatous, lichenoid etc

- The clinician decides whether the pathologic findings support the clinical diagnosis

- The location, type and chronicity of a lesion where a skin biopsy is taken from, will greatly affect and determine the pattern of inflammation
Skin biopsy take home point

- “If you send me a piece of skin, I’ll tell you it’s skin”
- “If you send me a piece of a rash, I’ll tell you it’s a rash”
- “If you tell me what you’re looking for, I’ll tell you what if it fits”
- “If you don’t know what the rash is (when you can seen all of a person’s skin), please don’t expect me to give you an answer from a tiny piece of skin”

- Do not depend on a skin biopsy to provide a diagnosis for your patient’s rash

- A skin biopsy should be performed only if one can correlate the pathologic findings with clinical findings to reach a diagnosis
Skin biopsy take home point

- If referring a patient for a rash, please allow the dermatologist to decide if a biopsy is helpful, and which lesion to take a sample of.

- Taking a skin biopsy prior to a referral often leads to confusion, inaccurate diagnosis, unrealistic patient expectations, a difficult and unhappy consultation, and a repeat skin biopsy.
Monday 8.30am  
Case #5

- “I’ve got a rash”
- 40 year old man
- Had a fever 5 days ago, that has resolved
- The rash showed up 3 days ago
- Otherwise healthy and well
- Same rash occurred perhaps twice in the past, same spot, also after a fever
Differentials

- Burn
- Bite
- Self-inflicted
- Infectious?
More history

- He really feels fine

- He took ibuprofen over-the-counter for his fever

- He would take ibuprofen only when he had fevers in the past, and the fever always went away within 1-2 days, and he loves ibuprofen

- “Ibuprofen is a wonderful medication”
Diagnosis?

- Fixed drug eruption

- Adverse drug reaction characterized by the formation of a solitary erythematous patch or plaque that will recur at the same site with re-exposure to the drug
- Onset within 1-2 days of drug exposure
- Commonly involved drugs include:
  - phenolphthalein (laxatives), tetracyclines, sulfonamides, NSAIDs, salicylates
Fixed Drug Eruption

To acetaminophen

To doxycycline
Exanthematous or morbilliform drug eruptions (“maculopapular rash”)
Morbilliform drug eruption

- Onset within a week to 10 days
- Resolves in a few days to 2 weeks after the medication is stopped
- Resolves without sequelae (though extensive dryness, scaling and desquamation can occur)
- Treatment consists of topical steroids, oral antihistamines, and reassurance
Drug-Induced Hypersensitivity Syndrome

- AKA Drug Reaction with Eosinophilia and Systemic Symptoms (DRESS)
- Morbilliform eruption
- Facial swelling, fever, malaise, lymphadenopathy, and other organs (liver, kidneys) involved, eosinophilia
- Onset 3 weeks or more after medication
- 10% mortality rate
Medications commonly implicated

- Allopurinol
- Sulfonamide
- Anti-convulsants
- Dapsone
- Isoniazid
- NSAIDs
- Anti-HIV drugs
Acute Generalized Exanthematous Pustulosis

- Beta-lactam antibiotics, calcium channel blockers
Stevens-Johnson Syndrome / Toxic epidermal necrolysis
Stevens-Johnson syndrome / Toxic epidermal necrolysis

- Acute life-threatening mucocutaneous reaction
- Characterized by extensive necrosis and detachment of the epidermis and mucosal surfaces
- SJS can rapidly progress to TEN
- Early treatment with intravenous immunoglobulin
- Best managed in tertiary center with burns unit for specialized care
Monday 8.45am
Case #6

- “What’s happening to my face?”
Differentials

- Seborrheic dermatitis
- Atopic dermatitis
- Lupus
- Allergic contact dermatitis
- Rosacea
- Self-inflicted
Diagnosis

- Seborrheic dermatitis
- Atopic dermatitis
- Lupus
- Allergic contact dermatitis
- Rosacea
- Self-inflicted
Malar rash of systemic lupus erythematosus
Discoid lupus

Violaceous atrophic plaques
Discoid Lupus scars if untreated
Subacute Cutaneous Lupus

- Resemble psoriasis, dermatitis, or tinea corporis
- Sun-exposed skin
Tumid lupus erythematosus

- Resemble granuloma annulare, sarcoidosis or urticaria
Lupus panniculitis
More cutaneous lupus

- Lupus chilblains
- Resemble pernio, but ANA positive

- Neonatal lupus
- Mom anti-Ro positive
- 50% 3rd degree heart block
Cutaneous Lupus Take Home Point

- There are different types of cutaneous lupus, which often have no systemic involvement.

- Subacute cutaneous lupus is often ANA negative.

- Subacute cutaneous lupus is more often associated with elevated anti-SSA or anti-SSB antibodies.

- Subacute cutaneous lupus can be drug induced (terbinafine, ACE-inhibitors, calcium channel blockers, thiazide diuretics).
Seborrheic dermatitis
Treatment

- Low potency topical corticosteroid
- Topical ketoconazole
- OTC zinc pyrithione, selenium sulfide
- Topical sodium sulfacetamide
Rosacea

- Erythema and telangiectasia
- Erythematous papules and pustules
- Rhinophyma
Treatment

- Topical metronidazole
- Oral tetracycline (doxycycline, minocycline)
- Topical Azelaic acid
- Topical ivermectin
- Vascular laser
Contact dermatitis

- Eyelids and lips tend to be involved first

- With progression, diffuse erythema over the face, extending down to the anterior neck
Monday 9.00am
Case #7

- Painful sores on the legs
Diagnosis?

- Palpable purpura = vasculitis
Diagnosis?

- Palpable purpura = vasculitis
- Confirm on skin biopsy = leucocytoclastic vasculitis
  - Biopsy an early lesion

Etiology?
- Primary cutaneous
- Secondary (drug reaction, endocarditis, viral hepatitis etc)
- Autoimmune (SLE, RA, ANCA vasculitidis, Henoch Schonlein, cryoglobulin, etc)
- Paraneoplastic
Henoch Schonlein Purpura

- Most commonly seen in children
- Adult onset HSP associated with increased risk of developing chronic kidney disease
- Skin biopsy for direct immunofluorescence
  - IgA, C3 and fibrin deposition
Monday 9.15am
Case #8

- “I am itching all over and it is getting worse”
- Excoriations
Generalized Pruritus

- No underlying rash

- Work up for underlying systemic disease
  - CBC, BUN/creatinine, liver function, LDH, TSH, serum protein electrophoresis with immunofixation
  - Viral hepatitis, HIV, stool ova cyst parasite

- Consider urticarial
  - Individual lesions last for minutes to hours
  - May demonstrate dermatographism
Skin changes caused by pruritus

Lichen simplex chronicus

Prurigo nodularis
Treatment

- Treat underlying systemic disease
- Topical anesthetics, capsaicin (localized)
- Topical emollients to reduce dry skin
- Phototherapy
- Systemic options include antihistamines, naltrexone, gabapentin
Monday 9, 9:30am
Case #9

“I’ve got something to show you”
Delusion of parasitosis

- Primary psychiatric disorder
- Experience formication
  - Something biting, stinging, crawling
- See or are able to remove fibers in your presence
- Close contacts come to believe in the delusion as well
- “What do you think is causing the problem?”
Delusion of parasitosis

- These patients think they need a dermatologist
- They often have seen several dermatologists
- They need a behavioral health specialist
- Treatment of choice is / was pimozide
- Atypical antipsychotic medications are more commonly used
Neurotic excoriation
Unexplained scars
Cigarette burns
Acne excoriée
Take Home Point

- For psychocutaneous diseases
- Treat underlying depression, anxiety or obsessive-compulsive disorder
Monday, 9.45am
Case 10

- “I have blisters all over my body”
Diagnosis

- Bullous Pemphigoid
- Refer to dermatology (phone call)
- Immunobullous disease
- Diagnosis made on skin biopsy for H&E and direct immunofluorescence
- Immunosuppression
- Association with malignancy is marginal
Monday, 10.00am
Case 11

- “I’ve got acne”
Comedones

- Topical retinoids
  - Tretinoin
  - Adapalene
  - Tazarotene
Inflammatory

- Topical anti-inflammatory Rx
  - Clindamycin, benzoyl peroxide, dapsone, azelaic acid

- Oral Tetracyclines (avoid in <8 years)

- Oral contraceptives / Spironolactone for women with menstrual flares
  - FDA approved for acne: Estrostep, Yaz, Ortho-tricyclen
Take home point

- Hyperandrogenism should be suspected in women with acne, hirsutism and irregular menstrual periods

- Lab work up: DHEA-S, free or total testosterone and 17-hydroxyprogesterone
  - DHEA-S 4,000-8,000ng/ml or raised 17-OHprogesterone may indicate congenital adrenal hyperplasia
  - DHEA-S >8,000ng/ml, suspect adrenal tumor
  - Elevated testosterone may indicate polycystic ovarian syndrome or ovarian tumor
Nodulocystic

- Isotretinoin
Monday, 10.15a, Case 12

- “I’ve got something growing on my skin”
Melanoma Take Home Point

- Always look at the skin during annual exams
- Especially back and legs
- Phone call for urgent consults
Monday 10.30am

That’s all, folks!