Common Rashes

Kim Sanders MPAS, PA-C
Oregon Health and Science University
Case #1

- 21 year old female presents with a 3 month history of a new rash. It is not itchy but seems to be spreading. She has never had a rash like this before. She tried some over the counter hydrocortisone a few times and this was not helpful.
  - Past medical history: generally healthy, no recent illness
  - Medications: none
  - Family history: grandfather had a “rash” on his elbows for many years. No other family history of skin disease or skin cancer.
Physical exam
Physical exam continued

- Erythematous well demarcated thick scaly plaques on the bilateral elbows, knees, with a few other scattered on the arms, buttocks, thighs, and legs. Her face is spared.
- Several of her fingernails had scattered pits.
Work up

- You are unsure of the diagnosis, so you perform a biopsy which shows:
Pathology description

- Parakeratosis with neutrophils, a decreased granular layer, psoriasiform epidermal hyperplasia and dilated blood vessels surrounded by a lymphocytic infiltrate in the papillary dermis
Diagnosis?

- A) Pityriasis rosea
- B) Psoriasis
- C) Atopic dermatitis
- D) Syphilis
Diagnosis?

- A) Pityriasis rosea
- B) Psoriasis
- C) Atopic dermatitis
- D) Syphilis
So, why is it not...

- PR: can be difficult to distinguish between PR and guttate psoriasis, and their histopathology is often indistinguishable. Pityriasis rosea plaques tend to be more oval with a collarette of scale and follow the skin lines. History and time course are very important.
- Atopic dermatitis: AD is usually intensely itchy and psoriasis is less so. Psoriasis is typically well demarcated where AD is usually poorly demarcated. Psoriasis usually has a thicker scale and AD tends to be more crusted and lichenified (if chronic)
- Syphilis: can look like anything. History is important and you should consider testing for this based on social history. Palm and sole lesions are suggestive of syphilis.
Syphilis
Treatment

• Soak and seal with Triamcinolone 0.1% ointment twice daily x 2 weeks, then twice weekly as needed for maintenance.
  - Calcipotriene
  - Narrow band UVB
  - Methotrexate starting around 12-15mg weekly with 1mg folic acid daily
    • Labs needed
    • Refer to dermatology

• >15% of patients with psoriasis either have or will develop psoriatic arthritis. It is very important to ask about joint pain and evaluate for dactylitis and enthesitis.
What if...

- You saw another patient with more violaceous looking thin scaly plaques on her elbows and knees?
What if continued...

- Perhaps the patient was 52 years old and also complaining of muscle weakness and puffy eyes?
Dermatomyositis

- Can have a similar distribution to psoriasis
- Commonly associated with internal malignancy (breast and ovarian)
- Skin biopsy and labs (creatine kinase and aldolase) are needed along with a MRI, EMG, and/or muscle biopsy.
Other types of psoriasis

- Guttate:
Other types of psoriasis

- Pustular:
Case #2

- 24 year old female with a 4 week history of “ringworm”. It started with one area on her right side, then about a week later exploded all over her back, chest, and abdomen.
- It is slightly itchy, she has tried using lotion and this has provided her with some relief.
- She does note a sore throat about 6 weeks ago that resolved without treatment.
  - PMH: hay fever, asthma. No other chronic conditions.
  - FMX: dad with a history of melanoma
  - Meds: daily Allegra, albuterol pm
Physical exam

- Erythematous oval scaly papules scattered over trunk that seem to follow skin lines. One larger plaque with a collarette of scale noted on the right abdomen.
Diagnosis?

- Guttate psoriasis
- Nummular dermatitis
- Secondary syphilis
- Pityriasis rosea
Diagnosis?

- Guttate psoriasis
- Nummular dermatitis
- Secondary syphilis
- Pityriasis rosea
So, why is it not...

- Guttate psoriasis: see previous
- Nummular dermatitis: this is more common on the extremities, especially the lower legs and is intensely itchy. PR is usually mildly itchy or asymptomatic.
- Secondary syphilis: see previous
Treatment

- Self limited in 4-12 weeks
- Topical steroids if needed for itching
Case #3

- 25 year old male who recently returned after a 3 week trip to Costa Rica. During the trip he noticed a “rash” developing on his back and chest. The areas were not tanning like the rest of his skin. He has not used anything on it and it is not itchy.
  - PMHx: non-contributory
  - FHx: non-contributory
  - Meds: multivitamins, weight lifting supplements
Physical exam

- Hypopigmented papules coalescing into plaques with scalloped borders. Very slightly scaly when scratched.
Work up

- You decide to do a KOH and it shows:
Diagnosis

- Hypopigmented mycosis fungoides
- Pityriasis (tinea) versicolor
- Vitiligo
- Leprosy
Diagnosis

- Hypopigmented mycosis fungoides
- Pityriasis (tinea) versicolor
- Vitiligo
- Leprosy
So, why is it not...

• Hypopigmented mycosis fungoides: this is a variant of cutaneous T-cell lymphoma. This should be macular and KOH negative. Distribution usually starts in a bathing trunk distribution (buttocks, trunk, proximal thighs)
  - More commonly seen in patients with pigmented skin
  - Common presentation with juvenile onset
So, why is it not...

- Vitiligo: vitiligo is depigmented, not usually hypopigmented and is macular (no scale). Distribution is commonly elbows, knees, periorbital, wrists, genitals, dorsal hands/fingers, and dorsal feet, but can be widespread.
So, why it is not...

- Leprosy/Hansen’s disease: different types of leprosy can cause hypopigmented skin lesions.
  - Lepromatous leprosy: small, multiple, subtle and ill-defined; they may be difficult to recognize. The face, extremities, and buttocks are favored, and the warmer parts of the body are usually spared.
  - Tuberculoid leprosy: lesions have discrete edges and can be large. Raised border, slightly scaly, dry or minimally atrophic, associated alopecia, anhidrosis, and loss of tactile and heat sensations.
Treatment

- Selenium sulfide 1% or 2.5%
- Ciclopirox 1% shampoo or 0.77% cream
- Ketoconazole shampoo 1% or 2% or cream
- Lotrimin cream
- Oral fluconazole

- Be sure to leave the shampoos in place for 5-10 minutes before rinsing!!!
How do you do a KOH?

- With a #15 blade gently scrape the scale onto a glass slide.
- Apply a few drops of 10% KOH solution and cover with a cover slide.
- Heat from the bottom to help break apart the skin cells until bubbles – don’t scorch
- Look under the microscope for long branching hyphae (tinea) or short blunt rods (yeast) and spores, aka spaghetti and meatballs
Case #4

- 52 year old male with a 1 year history of enlarging rash on his torso, groin and buttocks. It is very itchy. It started on his buttocks and has been slowly spreading. Previously given triamcinolone cream which helps with the itching, but has not helped the rash resolve. Has also tried tea tree oil, Lotrimin, and lotion intermittently without relief.
  - PMHx: alcoholism, diabetes, hypertension, and hyperlipidemia
  - FHx: uncle with psoriasis
  - Meds: Metformin, glyburide, losartan, and atorvastatin.
  - Allergies: Penicillin
Physical exam

- Large erythematous annular plaque with scaling at the periphery extending from low back, across buttocks, down to mid posterior thighs.
Work up

- You decide to do a KOH and this is what it shows:
Diagnosis?

- Tinea corporis
- Psoriasis
- Granuloma annulare
- Erythema annulare centrifugum
Diagnosis?

- Tinea corporis
- Psoriasis
- Granuloma annulare
- Erythema annulare centrifugum
So, why is it not...

- **Psoriasis**: KOH negative. Annular plaques are less common for psoriasis (but do occur). Triamcinolone was making it spread (should help psoriasis).
- **Granuloma annulare**: this should have NO scale (dermal process) and be more red-brown in color.
- **Erythema annulare centrifugum**: This can be difficult to distinguish and often occurs in patients with a tinea infection. It will be KOH negative. Has a trialing scale, pathology can be non-specific but a PAS (fungal stain) would be negative.
So, why is it not...

- Erythema annulare centrifugum
Treatment

• Topical terbinafine, clotrimazole, spectazole, etc
• If widespread, persistent despite topical antifungal use, or has associated follicular papules (Majocchi’s granuloma) may need oral Terbinafine 250mg daily for 2-4 weeks.
Other tinea(s)

- Tinea pedis
Tinea cruris
Tinea faciei
What if...

- The patient presented with similar appearing papules and plaques that looked like this
Physical exam

• Reddish brown annular papules and plaques with no appreciable scaling on the bilateral dorsal hands, left lateral ankle, and left arm.

• KOH negative
Granuloma annulare

- Commonly red brown in color, but can be more pink.
- Annular in appearance
- NO scale
- There is a deep variant that can appear as dermal nodules
Case #5

- 9 year old male with a 4 month history of an intensely pruritic rash on his arms and legs. Notes he has had various rashes since he was a kid and has always had “sensitive skin”. In the past his rashes have mostly resolved on their own, but remembers his mom putting “some kind of cream on” in the past. He denies putting anything on his skin as he does not like the feeling of lotions. Otherwise feeling well.
  - PMHx: seasonal allergies, mild asthma
  - FHx: mom has rashes, mostly on her hands that come and go
  - Medications: pm Zyrtec
Physical exam

- Ill defined erythematous plaques with scaling and many areas of crusting. Few isolated pustules. Mostly antecubital and popliteal fossae.
Work up

- You decide to do a biopsy which shows: spongiosis, dermal edema, and perivascular lymphocytes extending to epidermis with scattered eosinophils.
Diagnosis?

- Viral exanthum
- Atopic dermatitis
- Scabies
- Drug eruption
Diagnosis?

- Viral exanthum
- Atopic dermatitis
- Scabies
- Drug eruption
So, why it is not...

- **Viral exanthem:** was not recently ill. These tend to be morbilliform (erythematous macules and small papules) and widely distributed over trunk, then spreading to proximal extremities. Usually not or minimally itchy.

- **Scabies:** distribution tends to be more wrists, between fingers, breasts, waistline, penis, ankles. Often presents with burrows.

- **Drug eruption:** this tends to be urticarial or morbilliform.
Morbilliform eruptions and scabies
Treatment

• Thick emollients, such as Cetaphil cream or Vaseline daily after bathing
• Topical steroids (strength depends on body areas being treated) usually for 2 weeks, then twice weekly as needed for maintenance.
• Tacrolimus after the initial 2 weeks, twice daily for maintenance therapy can be very helpful
• Soak and seal
• NBUVB, systemic medications such as cyclosporine and methotrexate for severe cases.
• New systemic treatments on the horizon
Case #6

- 74 year old male with a rash in his scalp and on his face. Ongoing for at least 3 months, started in the wintertime. He has used over the counter hydrocortisone a few times with slight improvement. His scalp is very itchy.
  - PMHx: Parkinson’s, diabetes, hypertension
  - FHx: non-contributory
  - SHx: lives with wife. No EtOH or tobacco
Physical exam

- Scalp with diffusely scattered pink plaques with overlying yellow greasy scale.
- Face with erythematous plaques with same yellow greasy scale bilateral eyebrows and nasolabial folds.
Diagnosis?

- Seborrheic dermatitis
- Psoriasis
- Cutaneous lupus erythematosus
- Rosacea
Diagnosis?

- Seborrheic dermatitis
- Psoriasis
- Cutaneous lupus erythematosus
- Rosacea
So, why is it not...

• Psoriasis: there can be an overlap called sebopsoriasis. This patient does not have any other areas typical of psoriasis, the scaling of psoriasis is usually more silvery and thick, and often extends out of the hairline.
So, why is it not...

- Cutaneous lupus erythematous: acute lupus can present with an erythematous scaly rash on the face, typically in a “butterfly” pattern that spares the nasolabial folds. Exacerbated by sun exposure. These patients are often acutely sick.
So, why is it not...

- **Rosacea**: rosacea does not affect the scalp or eyebrows. Often inflammatory papules and pustules are present on the cheeks.
Treatment

- Anti-dandruff shampoos
  - Selsun blue, head and shoulders with zinc, ketoconazole, and prescription ciclopirox
  - Be sure to leave the shampoos in place for 5-10 minutes before rinsing
- Anti-yeast creams
  - Ketoconazole
- Hydrocortisone*
- Pimecrolimus (Elidel)
Case #7

- 38 year old female with persistent “acne” on her cheeks for 4 years. Feels like it gets worse when she drinks red wine, but is always present. Sometimes the areas are dry and flaky. She has tried a variety of over the counter acne products, all which tend to irritate her skin.
  - PMHx: healthy
  - FHx: mom always had red cheeks, but never any acne
  - SHx: has 3 children, rare EtOH, no tobacco
Physical exam

- Bilateral cheeks, nose, glabella, and chin with moderate erythema. Some edema present with scattered inflammatory papules and pustules.
Diagnosis?

- Acne, adult female type
- Seborrheic dermatitis
- Rosacea
- Cutaneous lupus erythematosus
Diagnosis?

- Acne, adult female type
- Seborrheic dermatitis
- Rosacea
- Cutaneous lupus erythematosus
So, why is it not...

- **Acne vulgaris:** usually does not have the extensive background erythema. In adult females, distribution is commonly on the lower cheeks and jawline and flares with menses. Absence of comedones.

- **Seborrheic dermatitis:** scaling is usually more dry and less greasy and mostly on the cheeks and nose instead of nasolabial folds.

- **Cutaneous lupus erythematosus:** can be tricky if there are no papules and pustules. Review of systems is important.
Treatment

• **Topical medications, usually twice daily**
  - Metronidazole (cream, gel, lotion)
  - Azelaic acid
  - Sodium sulfacetamide
  - Topical ivermectin

• **Oral medications (for papulopustular)**
  - Doxycycline or Minocycline 100mg twice daily
  - Low dose doxycycline can be considered for maintenance
  - Oral isotretinoin of nodular

• **Laser is good for the underlying redness**
Case #8

- 72 year old male presents complaining of leg pain and swelling bilaterally. He notes his legs ooze and have been getting progressively worse over the past several weeks. He has applied Neosporin to open areas which was not helpful.
  - PMHx: diabetes, s/p MI, hypertension
  - FHx: mom had eczema, dad died of lymphoma
  - SHx: lives alone, rare EtOH, daily smoker
Physical exam

- Bilateral legs with erythema extending from just below the knee to the ankle. Pitting edema is noted. The plaques are warm and there are many areas of crusting.
- Vitals: BP 150/90, P 86, R 14, Temp 98.6
Diagnosis?

- Bilateral cellulitis
- Allergic contact dermatitis
- Nummular dermatitis
- Stasis dermatitis
Diagnosis?

- Bilateral cellulitis
- Allergic contact dermatitis
- Nummular dermatitis
- Stasis dermatitis
So, why is it not...

- **Bilateral cellulitis:** because this doesn’t exist! Stasis dermatitis usually has some weeping, scaling, and crusting, but can be very hot – similar to cellulitis. However if is bilateral, think stasis dermatitis.

- **Allergic contact dermatitis:** this does happen in the context of stasis dermatitis. Neosporin is a common cause in stasis dermatitis. ACD can make stasis dermatitis worse and harder to treat.

- **Nummular dermatitis:** stasis dermatitis is more extensive whereas nummular dermatitis is more discreet plaques.
Treatment

- Triamcinolone 0.1% ointment twice daily x 2 weeks, then twice weekly as needed for maintenance.
- May need unna wraps
- Compression stockings!!!
- Treat any secondary infection if present and remove any potential contactants.
Case #9

- 32 year old female with new onset white patches on her elbows, knees, and wrists. The patches have been present for about 2 months and seem to be spreading. She generally feels tired most of the time and thinks she is loosing hair. She is a vegan and exercises regularly.
  - PMHx: healthy
  - FHx: mom with thyroid problems. Dad with diabetes.
  - SHx: personal trainer, no alcohol or tobacco use
Physical exam

- Depigmented patches over bilateral elbows, knees, and volar wrists. Some of the patches seem to have freckles within. Skin on legs diffusely dry. Hair texture course and seems thin over the crown. Hair pull test negative.
Work up

• Areas evaluated under woods lamp and highlighted bright white

• Due to systemic symptoms you order the following
  o CBC - normal
  o Ferritin - normal
  o TSH - 13
Diagnosis?

- Hypopigmented mycosis fungoides
- Postinflammatory hypopigmentation
- Idiopathic guttate hypomelanosis
- Vitiligo
Diagnosis?

- Hypopigmented mycosis fungoides
- Postinflammatory hypopigmentation
- Idiopathic guttate hypomelanosis
- Vitiligo
So, why is it not...

- Hypopigmented mycosis fungoides: see above
- Postinflammatory hypopigmentation: there is no history of prior rash/inflammatory skin process in these locations.
- Idiopathic guttate hypomelanosis: dorsal forearms and anterior legs most commonly. Related to sun damage. Macules usually small.
Treatment

• (I would refer to) PCP or Endocrinology for further evaluation and treatment of her hypothyroidism.
• High potency topical steroids twice daily for 2 weeks, then twice weekly
• After the initial 2 weeks add Tacrolimus (Protopic) twice daily, except 2 days of topical steroid
• NBUVB or excimer
• Some conflicting data on vitamins (folate and B12)
Thank you!

• References:
  o Google images