



Tropical Dermatology

Itch in the Tropics




How to navigate this presentation

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Click any page to progress to the next page.

Additional navigation can be found at the bottom of each slide in the Google Slide toolbar, e.g., use the arrows to move forward and back.



Clicking on the  button in Canvas will advance you to the next page in Canvas.

Key to module icons

 Key Clinical Features

 Aetiology

 Geography

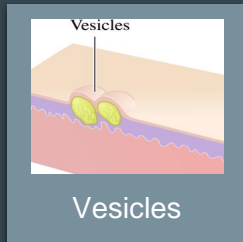
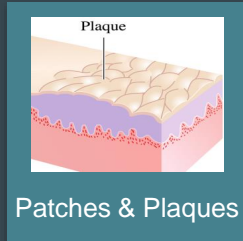
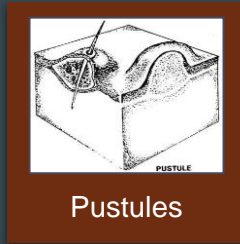
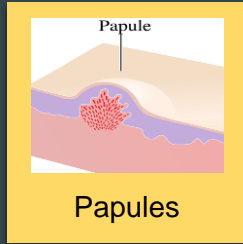
 Diagnosis / Bedside Diagnostics

 Treatment

 Tips and Tricks

Introduction to Itch in the Tropics

We will be covering these categories:



Bedside diagnostic techniques in this section

- Potassium hydroxide (KOH) prep
- Scabies prep
- Tzanck prep
- Skin snips for onchocerciasis



Section 1

Interactive Table of Contents Itch in the Tropics

> Visit sections by clicking buttons below.

Return to this page at any time to navigate to any section or specific condition



- Papules
 - Scabies
 - Insect bites
 - Miliaria
 - Papular pruritic eruption
 - Cercarial dermatitis
 - Sea bather's eruption
 - Tungiasis
 - Onchocercal dermatitis

- Patches and Plaques
 - Tinea
 - Psoriasis
 - Atopic dermatitis
 - Contact dermatitis

- Vesicles
 - Varicella
 - Bullous impetigo
 - Pemphigus foliaceus

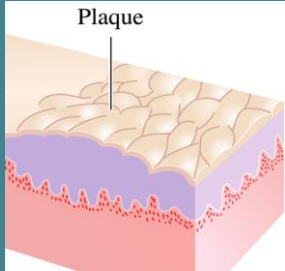
- Pustules
 - Folliculitis: Bacterial
 - Folliculitis: Fungal
 - Folliculitis: Eosinophilic

- Wheals
 - Urticaria

- Serpiginous
 - Cutaneous larva migrans
 - Strongyloides (larva currens)
 - Gnathostomiasis

Go to section 2

Go to section 3



Section 2

Part 1. Patches and Plaques

Itch in the Tropics



Patches and Plaques

Tinea

Psoriasis

Atopic
Dermatitis

Contact
Dermatitis

Patches and plaques are another common presentation of itchy skin diseases, both infectious (such as tinea corporis) and non-infectious.

Bedside diagnostic techniques
in this section

Potassium
hydroxide
(KOH) prep for
tinea





Patches and Plaques

Tinea

Psoriasis

Atopic
Dermatitis

Contact
Dermatitis

As with papules, the **location and distribution** of the lesions is helpful in differentiating between diseases.

Bedside diagnostic techniques
in this section

Potassium
hydroxide
(KOH) prep for
tinea





Tinea Corporis (Ringworm)



Key Clinical Features

- Itchy patches and plaques
- Dry scale
- Often central clearing



Scaly plaque with raised red border

PATCHES AND PLAQUES



Tinea Corporis (Ringworm)



🕒 The fungus lives several millimeters *beyond the raised border*. That is the best place to take a **scraping for KOH exam.**



Plaque with central clearing

Tinea Corporis (Ringworm)

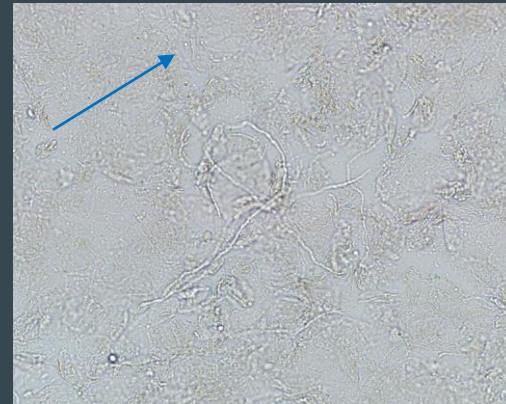


Aetiology

- Fungus (dermatophyte) infection of the top layers of the skin
- Branching hyphae on KOH exam



[Watch this video](#) to learn the technique of making a KOH preparation



Branching hyphae on KOH



Tinea Corporis (Ringworm)



Treatment

- One to few lesions: Topical treatment
 - Terbinafine 1% cream twice daily x 4 weeks
 - Whitfield's ointment twice daily x 4 weeks
 - Azole cream (e.g. ketoconazole) twice daily x 4 weeks



Tinea Corporis (Ringworm)



Treatment

- Multiple or widespread lesions:
 - **Terbinafine**
 - **250 mg by mouth daily x 2-4 weeks**
 - **Griseofulvin**
 - Adults: **500 mg by mouth daily x 2-4 weeks**
 - Children: **10-15 mg/kg/day x 2-4 weeks**

Tinea Corporis (Ringworm)

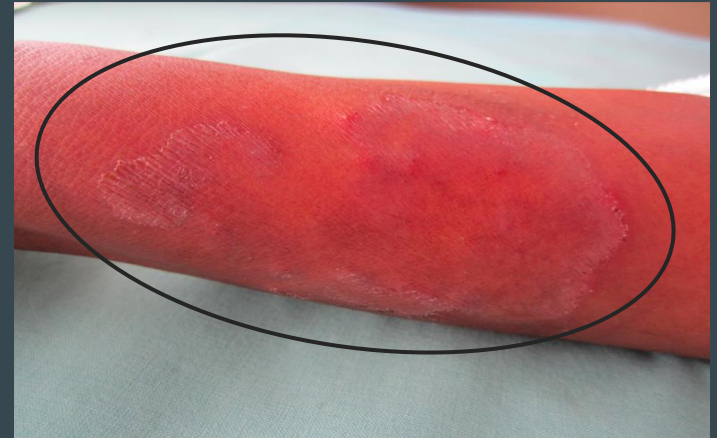


Treatment



Apply topical treatments to the entire plaque and 1 cm **beyond** the red, scaly border.

Nystatin is ***not*** effective for treating tinea.



Psoriasis

Key Clinical Features

- Well-defined scaly, itchy plaques
- **Elbows, knees, scalp, umbilicus, areas of rubbing/trauma**
- **Nail changes: pits, oil spots, distal separation of nail plate**
- Arthritis: **Asymmetric, destructive**

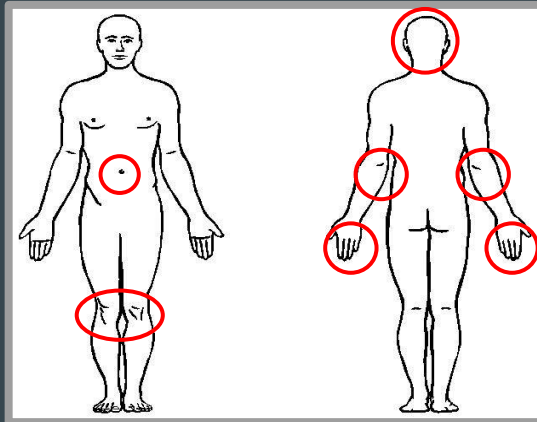


Scaly plaques of psoriasis. Unlike tinea, the plaques have no central clearing

Psoriasis



There are several subtypes of psoriasis. **Plaque-type is the most common**



Nail changes with pitting



Psoriasis



Aetiology

- Chronic inflammatory disease that often starts in adulthood
- Worse with
 - Trauma/rubbing/scratching skin
 - Stress
 - Medications such as beta-blockers, lithium, antimalarials
 - Streptococcal infections
 - HIV infection



Psoriasis



Severe or sudden onset of psoriasis should raise suspicion of recent or concurrent infection, including HIV



Well defined scaly plaque on an extensor surface, a common site of minor skin injury



Psoriasis



Treatment

- **Emollients**
 - **Petroleum jelly or cooking oil**
- **Topical corticosteroids**
 - **Hydrocortisone 1% cream for face and skin folds**
 - **Betamethasone 0.05% ointment to trunk and extremities**



Psoriasis



Treatment

- Sunlight/phototherapy
- Salicylic acid for thick scale
- Systemic treatments:
methotrexate most common
in resource limited setting



Petroleum jelly is widely available, cheap, and works well as a moisturizer



Psoriasis



🌙 Psoriasis can lead to post-inflammatory pigmentary changes to the skin, including hypopigmentation and hyperpigmentation. See [Pigmentary Disorders](#).



Atopic Dermatitis

Key Clinical Features

- Chronic skin disorder that starts in childhood
- **Itchy plaques *flexural* surfaces and face**
- **Often secondarily infected with *Staphylococcus* bacteria**

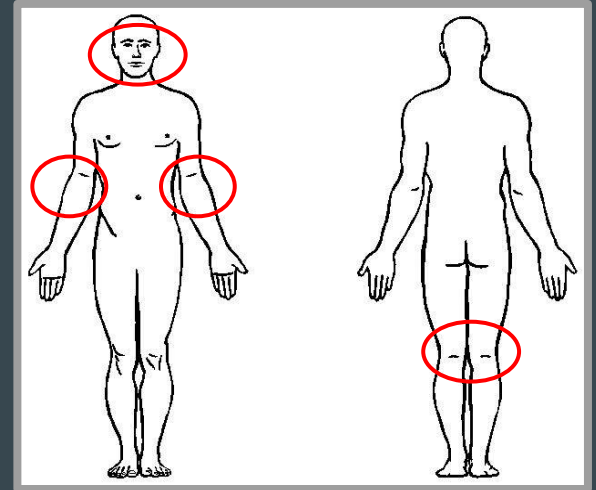


Dark itchy plaques on antecubital fossa. The plaques on the abdomen are due to nickel allergy, which is more common in atopic dermatitis

Atopic Dermatitis



Atopic dermatitis is called “*the itch that rashes*”. Skin changes, such as *lichenification* (thickening of the skin with corrugated appearance), are due to chronic scratching





Atopic Dermatitis



Aetiology

- Genetic predisposition and environmental triggers
- Associated with asthma, seasonal allergies (personal or family history)



Child with atopic dermatitis in typical locations, including the antecubital fossae



Atopic Dermatitis



While atopic dermatitis often improves with age, it can be a lifelong condition that needs ongoing care



Atopic Dermatitis



Treatment

- Sensitive skin care
 - Cool environment
 - Cotton clothing
 - Avoid fragrances



Atopic Dermatitis



Treatment

- Topical treatment
 - Moisturizer: Petroleum jelly
 - Topical corticosteroids
 - Hydrocortisone 1% ointment for children; face/flexural areas of adults
 - Betamethasone 0.1% ointment for non-flexural/face areas in adults
- Oral antihistamines, especially at night



Atopic Dermatitis



🌟 The goal of treatment is to *reduce itching* which leads to less scratching and fewer skin changes

🌟 Keeping skin moisturized is important - use available resources, such as cooking oil or petroleum jelly

🌟 Ointments sting less than creams when applied to inflamed skin. Important to remember for kids!

Contact Dermatitis

Key Clinical Features

- Distribution and history are critical to making the diagnosis
- May progress to **generalized dermatitis** involving skin not initially exposed
- May be **irritant** or **allergic**



Allergic contact dermatitis to components of leather



Contact Dermatitis



Aetiology

- Irritant
 - **Does not require sensitization**
 - Examples: bleach, harsh soaps



Irritant dermatitis can occur after the first exposure



Contact Dermatitis

Aetiology

- Allergic
 - **Requires sensitization** over time
 - Common contact allergens
 - Nickel in belt buckles, jewelry
 - Plants such as poison ivy
 - Preservatives in skin care products
 - Leather components
 - Fragrances
 - Neomycin, bacitracin



Allergic contact dermatitis to nickel



Contact Dermatitis



🕒 It can take many exposures, sometimes over years, before allergic contact dermatitis develops.



Contact Dermatitis

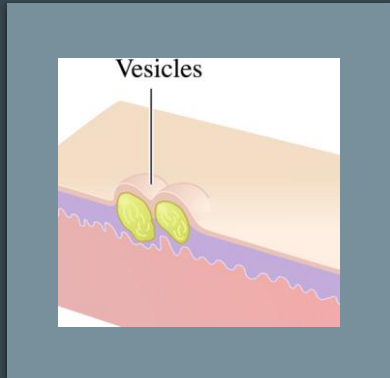


Treatment

- Avoid irritant or allergen
- Topical corticosteroids to calm inflammation
- Systemic corticosteroids can be used in severe cases
- Patch testing for contact allergens



Contact dermatitis can worsen with repeated exposure



Section 2

Part 2: Vesicles (including superficial erosions)

Itch in the Tropics



Vesicles

Varicella

Bullous
impetigo

Endemic
pemphigus
foliaceus

Vesicles can be itchy and can be seen in both infectious (varicella) and non-infectious diseases.

The **location**, **distribution**, and **if vesicles are intact or ruptured**, can be helpful in differentiating between diseases.

Bedside diagnostic techniques
in this section

Tzanck for
Varicella





Primary Varicella (Chickenpox)



Key Clinical Features

- Several morphologies at the same time:
 - Vesicles on erythematous base
 - Papules
 - Pustules
 - Erosions



Papules, vesicles, pustules and erosions that are *present simultaneously* is a key feature of primary varicella



Primary Varicella (Chickenpox)



Key Clinical Features

- May have **fever, malaise, arthralgias, GI upset**
- Hepatitis, pneumonitis, encephalitis may occur
- Can present primarily or disseminated in immunocompromised patients

Primary Varicella (Chickenpox)



Aetiology

- **First infection with Varicella virus**
- **Highly contagious**



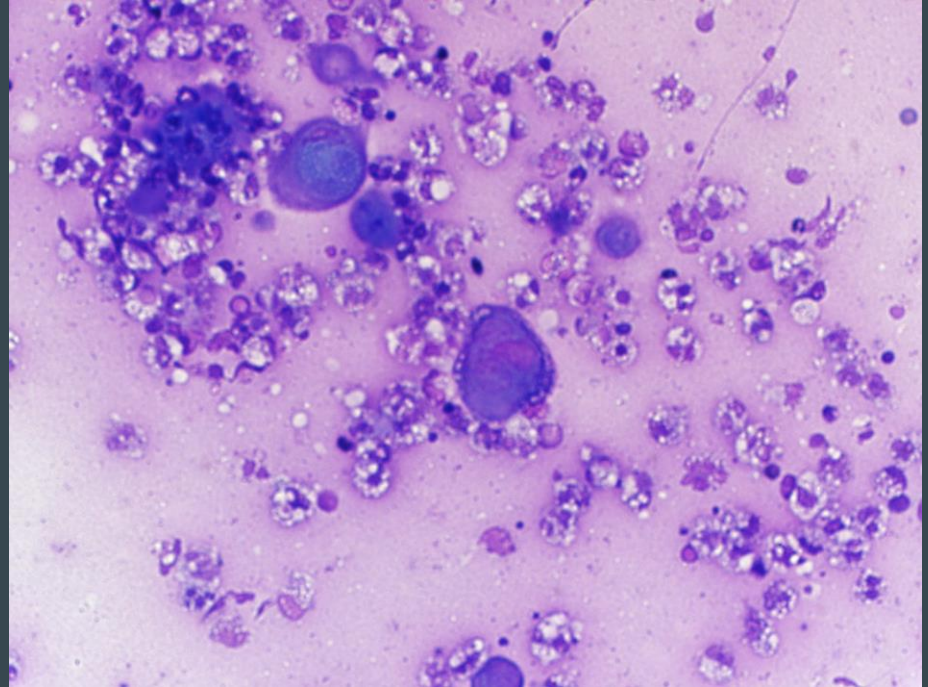
Generalized distribution of lesions on the trunk and extremities in primary varicella

Primary Varicella (Chickenpox)



Diagnosis: Tzanck smear


- Big keratinocytes with multiple nuclei
- Nuclear changes



Large keratinocytes with multiple nuclei in a positive Tzanck prep for varicella

Primary Varicella (Chickenpox)



Watch this video in the next item  to observe the technique of doing a Tzanck smear



Primary Varicella (Chickenpox)



Treatment

- Treatment of itching with calamine lotion, oral antihistamines
- Isolation from others until skin lesions crust over
- In immunocompromised persons, acyclovir or valacyclovir can be used
- Vaccine is available

Bullous Impetigo

Key Clinical Features

- Vesicles or bullae with pus
- Common on face and trunk
- Highly contagious
- May be superimposed on non-bullous impetigo



Vesicles and bullae with pus in dependent areas



Bullous Impetigo



Aetiology

- Due to *Staphylococcus aureus* which produces a toxin that cleaves the skin in the top layers



Non bullous impetigo, due to Group A Streptococcus, is more common and presents with typical “honey-coloured” crust



Bullous Impetigo



Treatment

For mild disease

- Topical antimicrobial creams
 - Clindamycin
 - Mupirocin
 - Fusidic acid
- Topical antibacterial washes/soaps
 - Chlorhexidine
 - Benzoyl peroxide
 - Dilute bleach baths



Bullous Impetigo



Treatment

For moderate to severe disease

- Oral antibiotics may be necessary along with topical therapy
 - Cephalexin
- If concern for methicillin resistant *Staphylococcus aureus*:
 - Clindamycin
 - Tetracycline class
 - Trimethoprim-sulfamethoxazole



Bullous Impetigo



Impetigo can easily be spread by objects.

Towels and clothing need to be washed.

Jars of cream or ointment, such as petroleum jelly, should be replaced.

Endemic Pemphigus Foliaceus



Key Clinical Features

- Also known as **fogo selvagem**
- **Erosions with overlying crust from superficial vesicles or bullae that easily rupture**
- **Burning sensation and itch**
- **Occurs with ultraviolet (UV) exposure**



Erosions with overlying crust.
Vesicles are rarely intact in pemphigus foliaceus



Intact vesicles are seldom seen as they rupture easily



Endemic Pemphigus Foliaceus



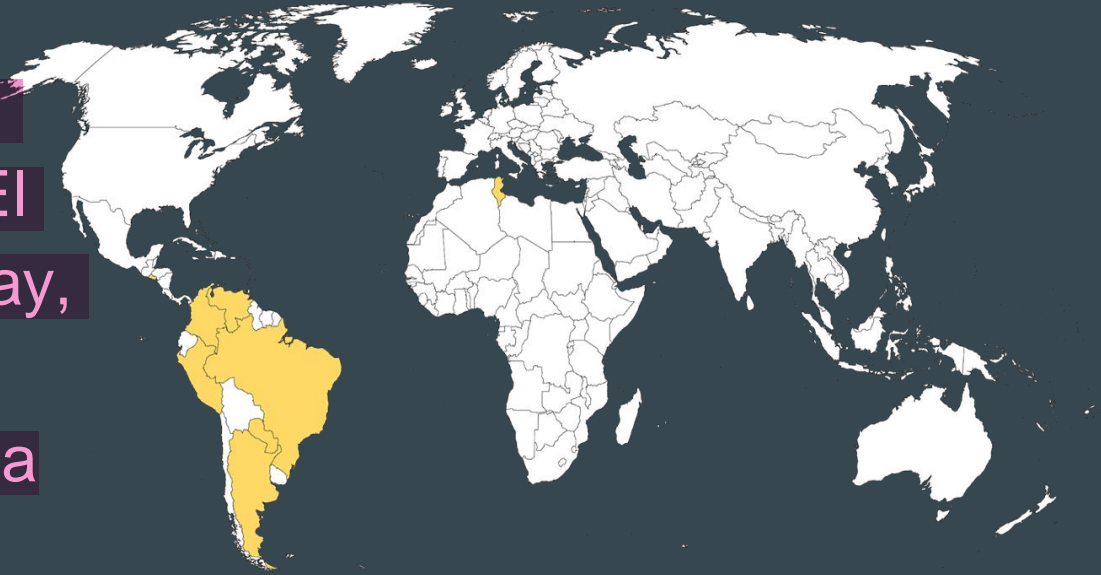
Aetiology

- Autoimmune blistering disease
- Possibly precipitated by bite of black fly *Simulium nigrimanum* as it follows course of streams and creeks and disappears after urbanization of areas

Endemic Pemphigus Foliaceus

Geography

- Primarily in **Brazil, Colombia, Peru, El Salvador, Paraguay, Argentina, Venezuela, Tunisia**



Countries endemic for pemphigus foliaceus



Endemic Pemphigus Foliaceus



Treatment

- **Prednisone (1mg/kg) is often used initially**
- **Topical corticosteroids for itch**
- Addition of **steroid-sparing immunosuppressants** may be necessary
 - **Methotrexate** is often used in resource limited settings
 - **Tetracycline antibiotics and nicotinamide may be helpful**

Endemic Pemphigus Foliaceus



Endemic pemphigus foliaceus does not self-resolve, so long-term immunosuppression may be necessary



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End of Presentation



Thank you!