DERMATITIS (ECZEMA)

Prepared By :- Dr Monther Fadel Nagi
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TYPES OF DERMATITIS

A- Common types o f Dermatitis:-

1- Atoric Dermatitis

2- Seborrheic Dermatitis

3- Contact Dermatitis

4- Dyshidrosis (pompholyx)

5- Xerotic eczema

Less common types o f Dermatitis:-

1- Discoid eczema

2- Stasis Dermatitis

3- Neurodermatitis

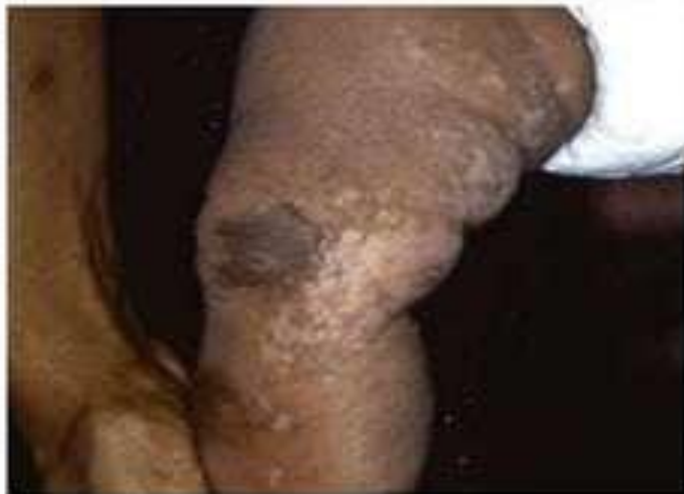
4- Autoeczematisation

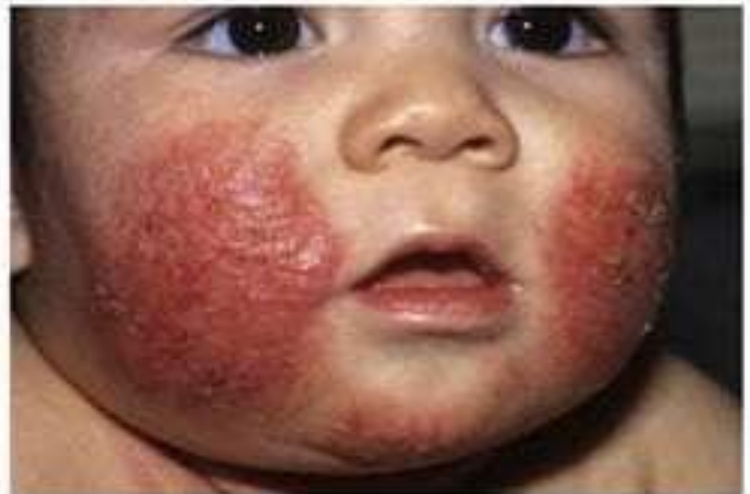
5- Eczema herpeticum

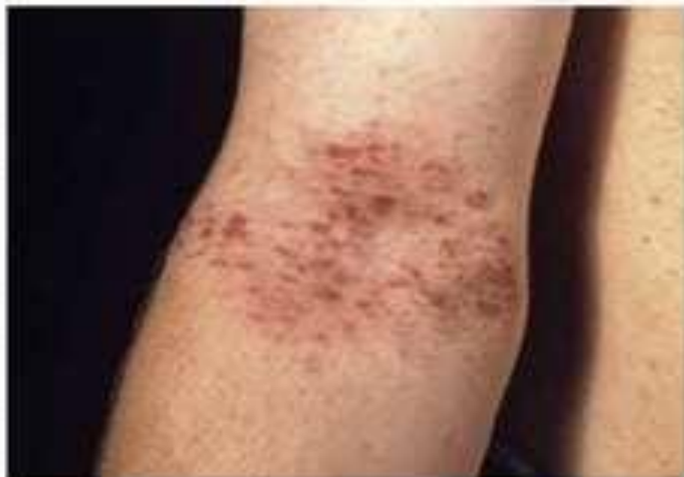
A- Common types o f Dermatitis:-

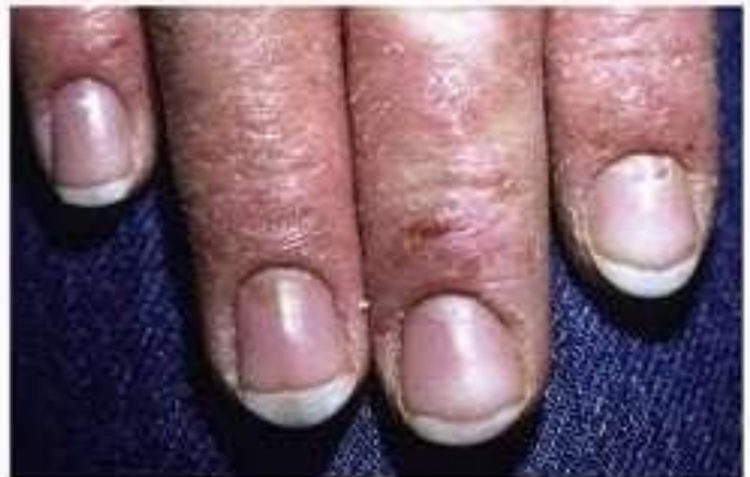
1- Atoric Dermatitis
2- Seborrheic Dermatitis
3- Contact Dermatitis
4- Dyshidrosis (pompholyx)
5- Xerotic eczema

1- ATOPIC DERMATITIS (ATOPIC ECZEMA)









ATOPIC DERMATITIS (ATOPIC ECZEMA)

Definition

- **Atopic dermatitis** is a genetically determined eczematous eruption that is pruritic,symmetric, and associated with personal family history of allergic manifestations(atopy).

ATOPIC DERMATITIS (ATOPIC ECZEMA)

- **Diagnosis is based on the presence of three of the following major features and three minor features.**

Major Features

- Pruritus
- Personal or family history of atopy: asthma, allergic rhinitis, atopic dermatitis
- Facial and extensor involvement in infants and children
- Flexural lichenification in adults

ATOPIC DERMATITIS (ATOPIC ECZEMA)

Minor Features

- Elevated IgE
- Eczema-perifollicular accentuation
- Recurrent conjunctivitis
- Ichthyosis
- Nipple dermatitis
- Wool intolerance
- Cutaneous *S. aureus* infections or herpes simplex infections
- Food intolerance
- Hand dermatitis (nonallergic irritant)
- Facial pallor, facial erythema
- Cheilitis
- White dermographism
- Early age of onset (after 2 months of age)

Etiology

- Unknown. Elevated T-lymphocyte activation, defective cell immunity, and B-cell IgE overproduction may play a significant role.

Epidermal Barrier Dysfunction
- Filaggrin gene impairment
- ↑ Skin pH
- ↓ *S. aureus* resistance
- ↑ Allergen susceptibility
- ↓ Ceramides
- ↓ Hydration

AD Pathogenesis

Immunologic Abnormalities
- Calcineurin-mediated Th2 cell activation
- ↑ TEWL
- ↑ IL-4, IL-13 production
- ↑ Serum IgE
- ↑ PDE-4 activation

Aggravating Factors
- Dry skin
- Harsh soaps, detergents, wool
- Seasonal changes
- Heat
- Sweating
- Infections
- Stress
- Food allergies

Physical Examination

- **The primary lesions are a result of scratching** caused by severe and chronic pruritus (“the itch that rashes”). The repeated scratching modifies the skin surface, producing lichenification, dry and scaly skin, and redness.
- **In children**, red scaling plaques are often confined to the cheeks and the perioral and perinasal areas
- Lesions are typically found on the neck, face, upper trunk, and bends of elbows and knees (symmetric on flexural surfaces of extremities).
- There is dryness, thickening of the involved areas, discoloration, blistering, and oozing.

Physical Examination

- Papular lesions are frequently found in the antecubital and popliteal fossae.
- Constant scratching may result in areas of hypopigmentation or hyperpigmentation (more common in dark-skinned patients).
- **In adults,** redness and scaling in the dorsal aspect of the hands or around the fingers is the most common manifestation of atopic dermatitis; oozing and crusting may be present.
- **Secondary skin infections** may be present (*S. aureus,* dermatophytosis, herpes simplex).

Diagnostic Tests

- Laboratory tests are generally not helpful.

- Elevated IgE levels are found in 80% to 90% of patients with atopic dermatitis.

- Blood eosinophilia correlates with disease severity.

DIFFERENTIAL DIAGNOSIS

- Scabies
- Psoriasis
- Dermatitis herpetiform
- Contact dermatitis
- Photosensitivity
- Seborrheic dermatitis
- Candidiasis
- Lichen simplex chronicus

TREATMENT

First Line

- Avoidance of triggering factors:
- Sudden temperature changes, sweating, low humidity in the winter
- Contact with irritating substance (e.g., wool, cosmetics, some soaps and detergents, tobacco)
- Stressful situations
- Allergens and dust
- Excessive hand washing
- Clip nails to decrease abrasion of skin.
- Emollients can be used to prevent dryness. Severely affected skin can be optimally hydrated by occlusion in addition to application of emollients.
- Low-to medium-potency topical steroids BID to affected areas.
- Oral antihistamines (nonsedating qAM, sedating qHS).

TREATMENT

Second Line

- Crisaborole 2% ointment (eucrisa) is a phosphodiesterase type-4 (PDE4) inhibitor effective topical treatment for mild to moderate atopic dermatitis in patients ≥2 years old. Cost is a major limiting factor. It is administered by subcutaneous injection.
- Topical immunomodulators pimecrolimus and tacrolimus are nonsteroid antiinflammatories that may be helpful in some patients.

TREATMENT

Third Line

- Phototherapy (Narrowband UVB)
- Systemic immunomodulators and antiinflammatories (methotrexate, cyclosporine,mycophenolate mofetil
- **Systemic biologic therapy**
- Dupilumab (dupixent) is a human monoclonal antibody FDA-approved for treatment of adults with moderate to severe atopic dermatitis that has not responded to topical therapies.

2- SEBORRHEIC DERMATITIS

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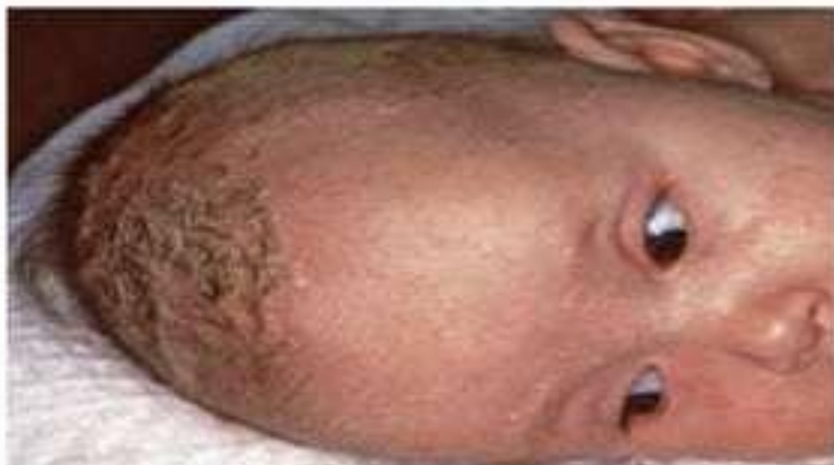
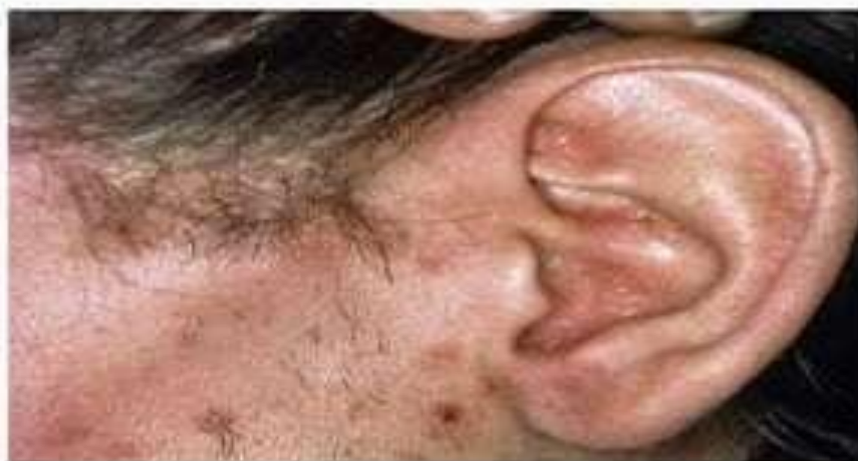
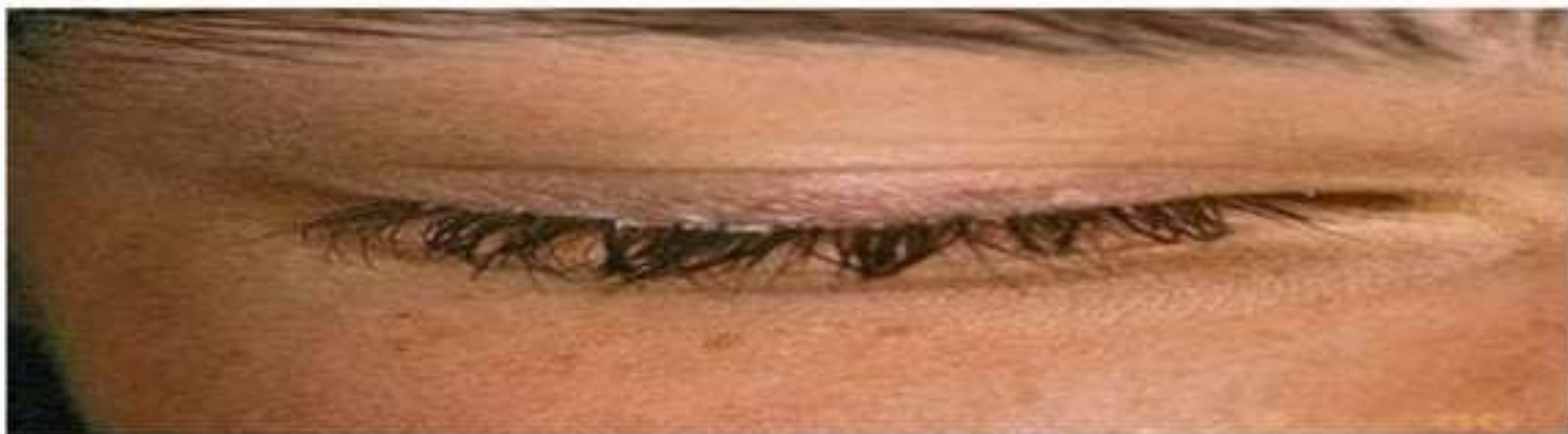
- Dermatology Resident

SEBORRHEIC DERMATITIS







SEBORRHEIC DERMATITIS

Definition

- Seborrheic dermatitis (SD) is a common, inflammatory skin condition characterized by a mild to severe rash with scaling and erythema that occurs in areas of the skin rich in sebaceous glands.

Etiology

- Fungal infections of the *Malassezia* species have been associated with SD, and the skin changes are thought to result from an inflammatory response to *Malassezia* yeast. Altered immune function may play a role. Patients with SD may show upregulation
- of interferon (IFN)-α, expressed interleukin-6 (IL-6), expressed IL-1β,and IL-4.

Clinical Manifestation(s)

- Cradle cap is the earliest manifestation of SD. It is due to maternal hormones that result in increased lipid production, leading to overgrowth of *Malassezia* species.
- **SD in both newborns and postpubertal adults predominantly affects areas in which sebaceous glands are most numerous (scalp, forehead , eyebrows, eyelids, ears, cheeks, and presternal and interscapular areas).**
- The lesions are often easily confused with psoriasis, especially in the scalp.
- Dandruff is the lay term applied to chronic low-grade SD.

Physical Examination

- The lesions are sharply marginated, dull red or yellowish, and covered with a greasy scale.

Diagnostic Tests

- HIV
- Fungal culture of skin scraping to rule out tinea capitis

DIFFERENTIAL DIAGNOSIS

- Psoriasis
- Tinea capitis
- Contact dermatitis
- Atopic dermatitis
- Rosacea
- Erythrasma
- Xerotic eczema
- Candidiasis

TREATMENT

First Line

- General recommendations: wash skin regularly, soften and remove scales, and apply moisturizing emollients after washing. Scale removal can be accomplished through the application of mineral or olive oil and removed with a comb or brush after 1 hour.
- **Topical steroids**: can be in the form of shampoos, creams, or ointments. These can be used alone or in more severe SD **with antifungals**.

TREATMENT

Second Line

- Antifungals (e.g., Nizoral, selenium sulfide, ketoconazole [the most evidence for effectiveness among antifungals], ciclopirox, fluconazole). Reserve oral antifungal therapy for patients with widespread SD or SD that is refractory to topical therapy.
- Itraconazole 200 mg/day for 7 days is a sample oral regimen.

TREATMENT

Third Line

- Calcineurin inhibitors (e.g., tacrolimus ointment, pimecrolimus cream): good when face and ears are affected.
- Keratolytics (e.g., tar, salicylic acid, zinc pyrithione).

3- CONTACT DERMATITIS (CONTACT ECZEMA)

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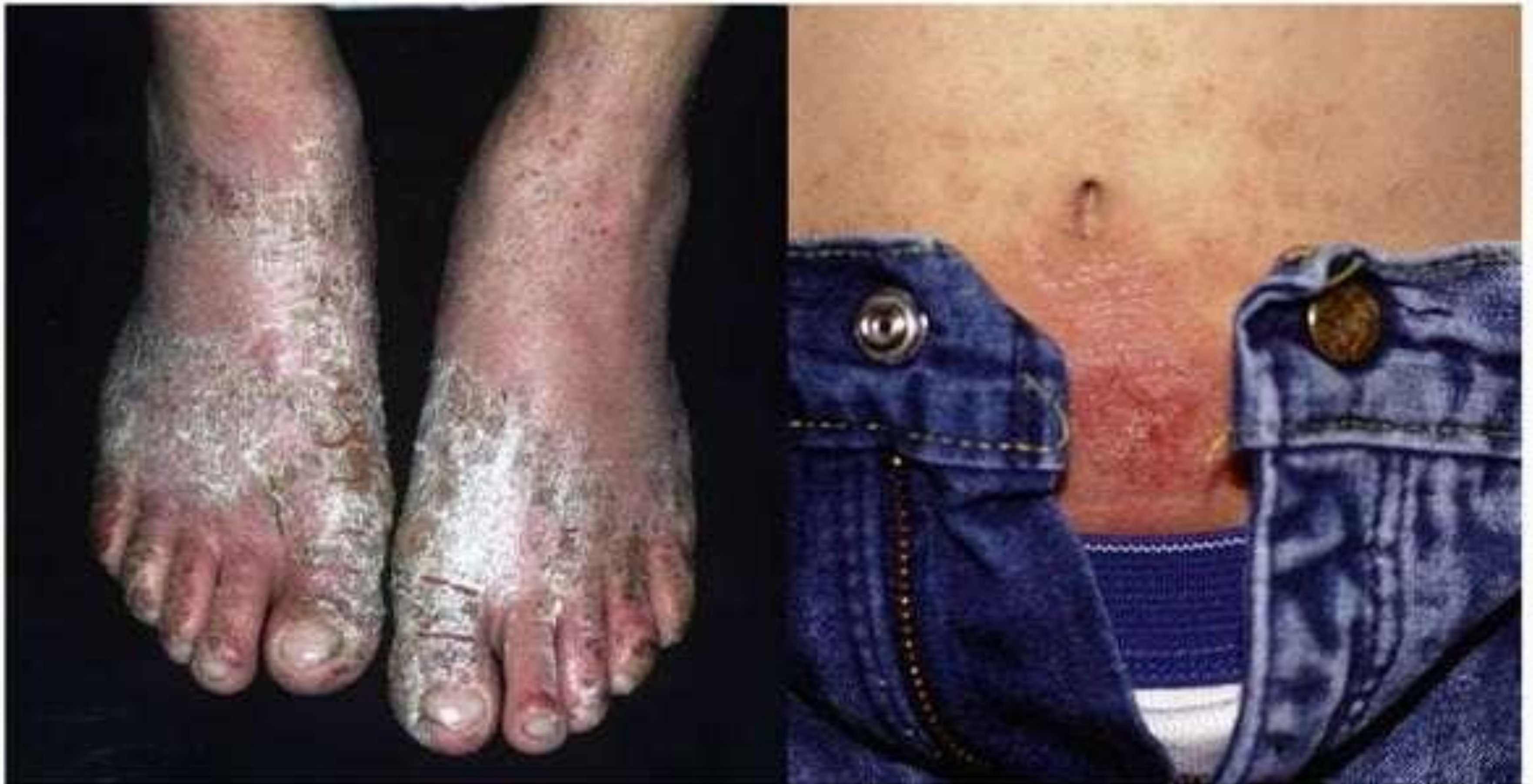
- Dermatology Resident

CONTACT DERMATITIS (CONTACT ECZEMA)



CONTACT DERMATITIS (CONTACT ECZEMA)

Definition

- Contact dermatitis is an acute or chronic skin inflammation or dermatitis resulting from exposure to substances in the environment. It can be subdivided into "**irritant**" **contact dermatitis** (nonimmunologic physical and chemical alteration of the epidermis) and "**allergic**" **contact dermatitis** (delayed hypersensitivity
reaction).

Etiology

- **Irritant contact dermatitis**: cement (construction workers), rubber, ragweed, malathion (farmers), orange and lemon peels (chefs, bartenders), hair tints, shampoos (beauticians), soaps, rubber gloves (medical, surgical personnel), depilatories .
- **Allergic contact dermatitis**: poison ivy, poison oak, poison sumac, belt buckles , other nickel (jewelry), oils, balsam of Peru (hand and face dermatitis), neomycin , formaldehyde (cosmetics), acrylic in adhesive tape, rubber(shoe dermatitis)

Clinical Manifestation(s)

- Mild exposure may result in dryness, erythema, and fissuring of the affected area (e.g., hand involvement in irritant dermatitis caused by exposure to soap; genital area involvement in irritant dermatitis caused by prolonged exposure to wet diapers).
- Poison ivy dermatitis can present with vesicles and blisters; linear lesions (as a result of dragging of the resins over the surface of the skin by scratching) are a classic presentation.

Physical Examination

- The pattern of lesions is asymmetric; itching, burning, and stinging may be present.
- The involved areas are erythematous, warm to touch, and swollen and may be confused with cellulitis.

Diagnostic Tests

- **A diagnosis of contact dermatitis is made from the history and distribution of lesions and is confirmed by patch testing to the suspected allergen**
- Patch testing is useful to confirm the diagnosis of contact dermatitis; it is indicated particularly when inflammation persists despite appropriate topical therapy and avoidance of suspected causative agent. Patch testing should not be used for irritant contact dermatitis because this is a nonimmunologic-mediated inflammatory reaction.
- Dermoscopy and microscopy may be useful when suspecting scabies.
- A potassium hydroxide (KOH) preparation may be useful if suspecting tinea or Candida infection.

DIFFERENTIAL DIAGNOSIS

- Impetigo
- Lichen simplex chronicus
- Atopic dermatitis
- Nummular eczema
- Seborrheic dermatitis
- Psoriasis
- Scabies
- Insect bites
- Sunburn
- Candidiasis

TREATMENT

First Line

- **Removal of the irritant substance** by washing the skin with plain water or mild soap within 15 minutes of exposure is helpful in patients with poison ivy, poison oak, or poison sumac dermatitis.
- Patients with shoe allergy should change their socks at least once a day; use of aluminum chloride hexahydrate in a 20% solution QHS will also help control perspiration.
- Use hypoallergenic surgical gloves in patients with rubber and surgical glove allergy.
- Cold or cool water compresses for 20 to 30 minutes five to six times a day for the initial 72 hours are effective during the acute blistering stage.
- Colloidal oatmeal (Aveeno) baths can also provide symptomatic relief.
- **Patients with mild to moderate erythema** may respond to topical steroid ointments or creams.
- **Oral antihistamines** will control pruritus, especially at night. Calamine lotion is also useful for pruritus; however, it can lead to excessive drying.

TREATMENT

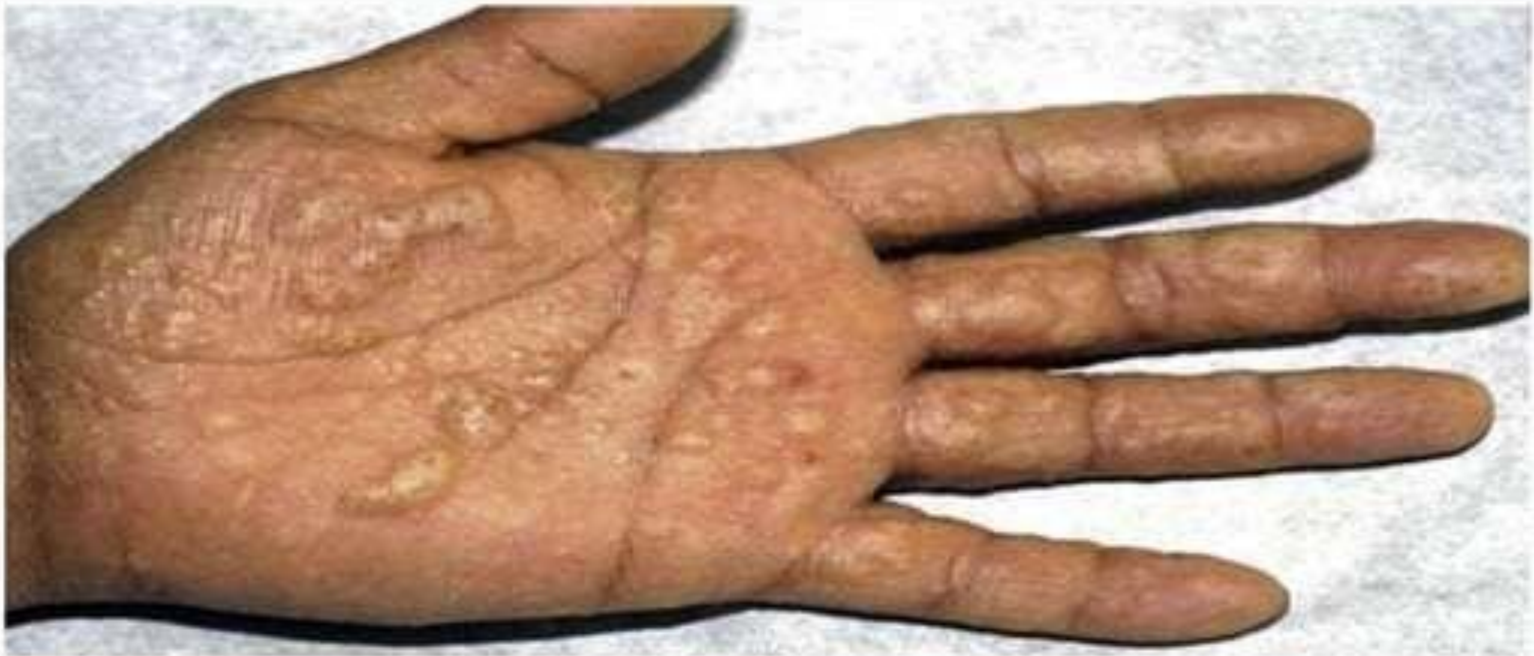
Second Line

- Oral corticosteroids are generally reserved for severe, widespread dermatitis.
- Intramuscular steroids are used for severe reactions and in patients requiring systemic corticosteroids but unable to tolerate them by mouth.

Third Line

- Phototherapy
- Azathioprine
- Cyclosporine

4- DYSHIDROTIC ECZEMA (POMPHOLYX)



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DYSHIDROTIC ECZEMA (POMPHOLYX)

Definition

• Dyshidrotic eczema is a recurrent, pruritic, vesicular eruption of the palms, soles,or digits.

Etiology

- Unknown. **Atopy, heat, and emotional stress may be contributing factors. An increased incidence of allergic contact dermatitis to nickel has also been reported.**

Clinical Manifestation(s)

- Sudden eruptions of symmetric vesicles appear on the palms of hands and plantar feet.
- **Intense pruritus often precedes and accompanies the eruptions.**
- Because of the increased thickness of the keratin layer at these sites, the vesicles appear as small, pale papules before rupturing.
- With the passage of time, the affected parts may show scaling and cracking.
- **Slow resolution of vesicles occurs over 2- to 3-week period**.

Physical Examination

- **Fluid-filled vesicles 2 to 5 mm in diameter can be seen on the palms, soles, and digits .**
- Rings of scale, peeling, and brown spots may all be present from previous vesiculation.

Diagnostic Tests

- Specific investigations include:-

1- patch testing for contact allergens

2-potassium hydroxide preparation

3- bacterial culture.

DIFFERENTIAL DIAGNOSIS

- Contact dermatitis
- Pustular psoriasis
- Inflammatory tinea
- Bullous pemphigoid
- Id reaction

TREATMENT

First Line

- Cold wet dressings
- Topical corticosteroids
- Oral antihistamines to alleviate pruritus

TREATMENT

Second Line

- Oral corticosteroids

Third Line

- Phototherapy with NBUVB or bath PUVA
- Azathioprine
- Methotrexate

5-Xerotic eczem

- **Definition:-** is dry skin that becom es so serious that it turns into eczema. It w orsens in dry w inter weather, and limbs and trunk are most often affected. **This**
- **disorder is very common among the older population.**

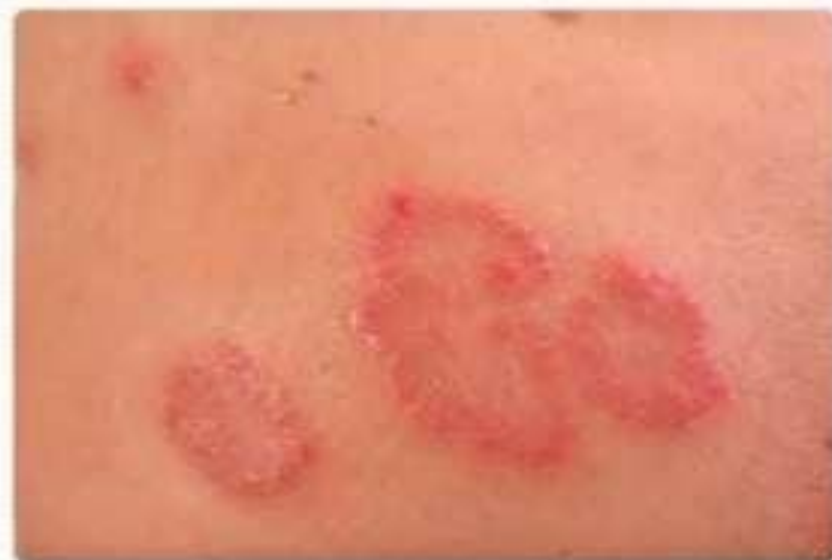
Less common types o f Dermatitis:-

1- Discoid eczema (Nummular Eczema)
2- Stasis Dermatitis
3- Neurodermatitis
4- Autoeczematisation
5- Eczema herpeticum

1- NUMMULAR ECZEMA

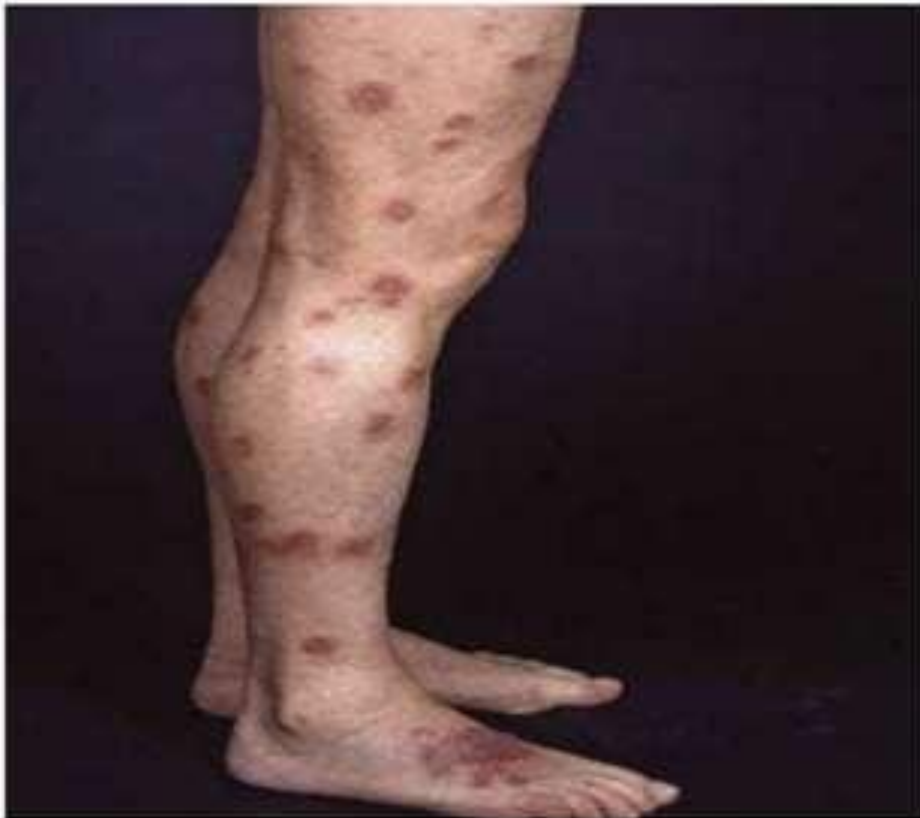
Definition

- Nummular eczema, also known as discoid eczema or nummular dermatitis, is a dermatitis manifesting with pruritic, coin-shaped lesions.



Etiology

- Unknown. Cutaneous xerosis is often present.



Clinical Manifestation(s)

- **There are two peak ages of onset: it affects young women (15–30 years old) and middle-aged adults of both sexes.**
- • Early lesions are seen as papules or vesicles. Lesions may be exudative and crusted.
- **Physical Examination**
- • Patients present with single or multiple pruritic, coin-shaped, erythematous plaques with vesiculation, particularly involving the lower legs, forearms, and backs of hands.

Diagnostic Tests

- Usually no tests are necessary. Biopsy may be performed when diagnosis is in doubt. **Patch testing is positive in nearly 30% of patients.**

DIFFERENTIAL DIAGNOSIS

- Psoriasis
- Atopic dermatitis
- Contact dermatitis
- Stasis dermatitis
- Tinea infection
- Scabies

TREATMENT

First Line

- Topical corticosteroids

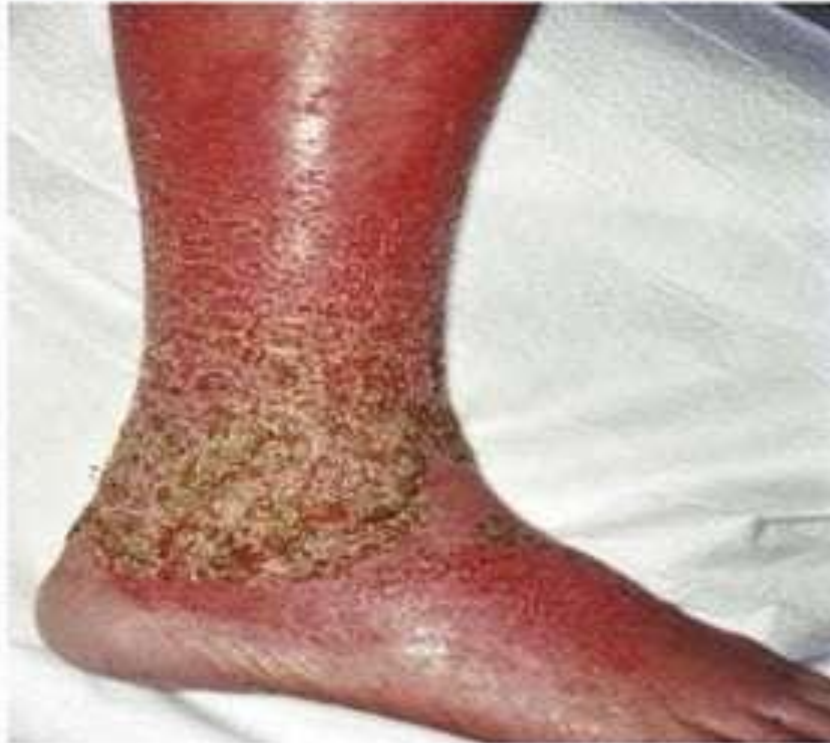
Second Line

- Topical steroid-antiseptic combination
- Topical steroid-antibiotic combination

Third Line

- Systemic corticosteroid

2- STASIS DERMATITIS



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STASIS DERMATITIS

Definition

• Stasis dermatitis is an inflammatory skin disease of the lower extremities, commonly
seen in patients with chronic venous insufficiency.

Etiology

- Stasis dermatitis is thought to occur as a direct result of any insult or injury of the lower extremity venous system leading to venous insufficiency, including:
- Deep vein thrombosis
- Trauma
- Pregnancy
- Vein stripping
- Vein harvesting in patients requiring coronary artery bypass grafting (CABG)
- Venous insufficiency subsequently results in venous hypertension, causing skin inflammation and the aforementioned physical findings and clinical presentation.

Clinical Manifestation(s)

- **Stasis dermatitis occurs more commonly in the elderly.**
- It is rarely seen before the age of 50 years and is estimated to occur in up to 6% to 7% of the patients older than 50 years.
- **It occurs in woman more often than men**, perhaps related to lower-extremity venous impairment aggravated through pregnancy
- **Onset is insidious.**
- **Pruritus is present**.
- **Progressive pigment changes can occur as a result of extravasation of red blood cells and hemosiderin deposition within the cutaneous tissue**.

Physical Examination

- Chronic edema usually described as "**brawny edema**, as stasis dermatitis pathologically is associated with dermal fibrosis
- Erythema
- Scaly
- Eczematous patches
- Commonly located over the medial malleolus

Diagnostic Tests

- **The diagnosis of stasis dermatitis is primarily made by a detailed history and physical examination.**

DIFFERENTIAL DIAGNOSIS

- Contact dermatitis
- Atopic dermatitis
- Cellulitis
- Tinea dermatophyte infection
- Pretibial myxedema
- Nummular eczema
- Lichen simplex chronicus
- Xerosis
- Asteatotic eczema
- Deep vein thrombosis

TREATMENT

First Line

- Elevate the leg above heart level for 30 minutes three to four times a day (avoid in arterial occlusive diseases).
- Use a compression stocking with a gradient of at least 30 to 40 mm Hg. In obese patients, an intermittent pneumatic compression pump is recommended.
- For weeping skin lesions, wet to dry dressing changes are helpful.
- The mainstay of treatment of stasis dermatitis is to control leg edema and prevent venous stasis ulcers from developing.
- In patients with acute stasis dermatitis, a compression (Unna) boot can be applied.

TREATMENT

- **Topical corticosteroid creams or ointments (e.g., triamcinolone 0.1% BID**) are used often to help reduce inflammation and itching.
- **Secondary infections** should be treated with appropriate antibiotics. Most secondary infections are the result of *Staphylococcus* or *Streptococcus* organisms.
- **Diuretics** may be helpful in controlling edema.
- **Aspirin (300–325 mg**) promotes healing of chronic venous ulcers.

Second Line

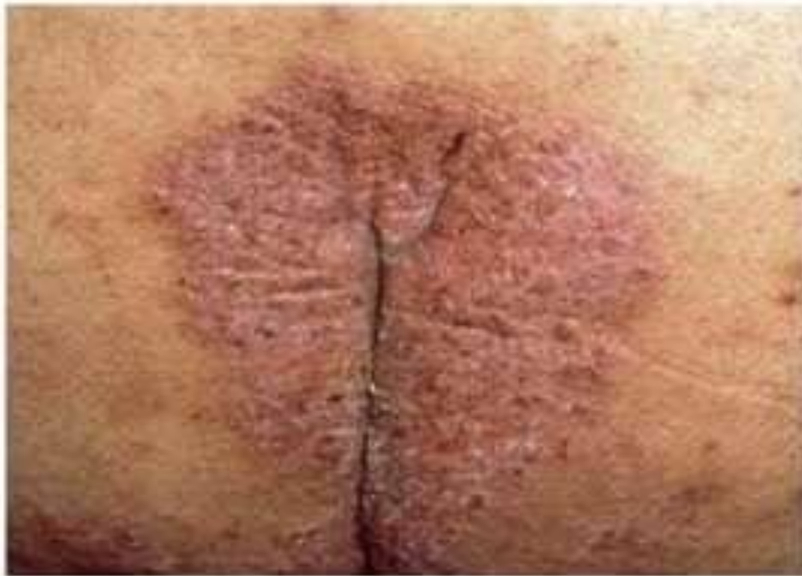
- Patients with chronic stasis dermatitis can be treated with topical emollients (e.g.,
white petrolatum, lanolin, Eucerin).
- Topical dressings

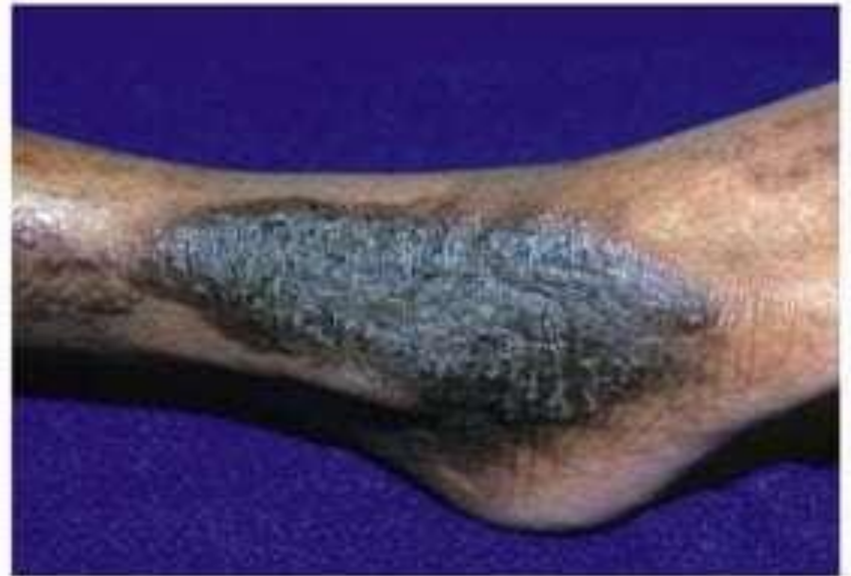
TREATMENT

Third Line

- Surgical therapy:
- Venous stripping
- Superficial and deep perforator vein ligation
- Endovenous stenting

3- NEURODERMATITIS





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NEURODERMATITIS

LICHEN SIMPLEX CHRONICUS (Nueodermatitis)

Definition

- Lichen simplex chronicus is a neurodermatitis manifesting with localized areas of thickened scaly skin due to prolonged and severe scratching in patients, often without an underlying dermatologic condition.

Etiology

- **LSC** can be considered **a neurodermatitis** due to long-term, chronic rubbing and scratching more vigorously than a normal pain threshold would allow, resulting in thickened and leathery skin.
- **Common triggers are excess dryness of skin, heat, sweat, and psychologic stress**. It can also accompany other conditions such as the fungal infections (candidiasis or tinea cruris), psoriasis, lichen sclerosus, or neoplasia.
- **Other causes include atopic dermatitis and insect bites.** Rare cases have shown links to lithium use, hair dye containing PPD, and long-term exposure to vehicle pollution.

Clinical Manifestation(s)

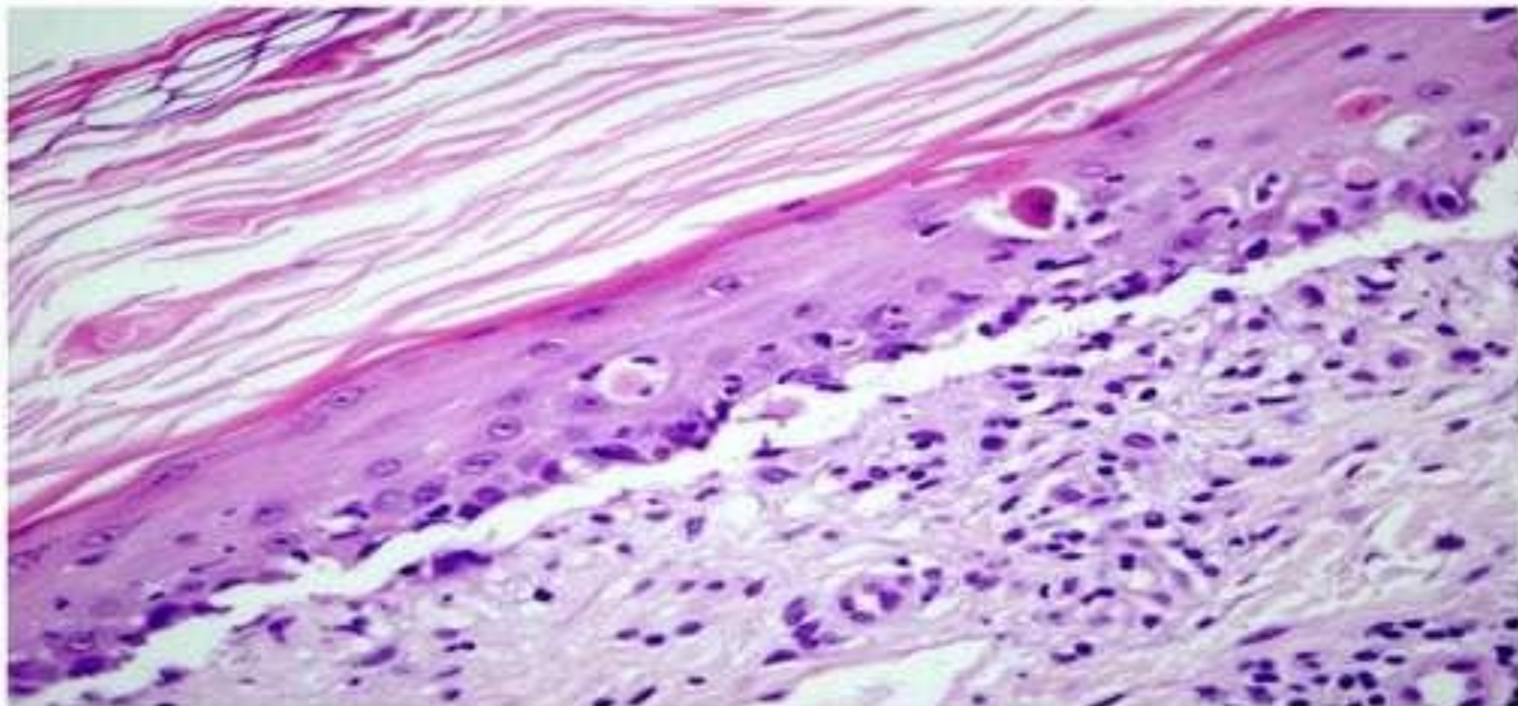
- Patients present with profound pruritus and localized scaly plaques with accentuated skin markings said to resemble tree bark .

Physical Examination

- Lichenified circumscribed plaques are seen, and lesions may be hyperpigmented in patients with darker skin.
- **Commonly involved areas** include **hands and wrists, back and sides of neck, anterior tibias, anogenital areas, and ankles.**

Diagnostic Tests

- Skin biopsy reveals hyperkeratosis, patchy parakeratosis, and elongation of the rete ridges.



DIFFERENTIAL DIAGNOSIS

- Lichen planus
- Psoriasis
- Atopic dermatitis
- Insect bite
- Nummular eczema
- Contact dermatitis
- Stasis dermatitis

TREATMENT

First Line

- Patient education is essential to break the itch–scratch cycle and facilitate treatment of any underlying dermatitis.
- **Hydroxyzine 25 mg at bedtime is effective in decreasing nocturnal itching.**
- **Topical corticosteroids**
- **Intralesional corticosteroids**

Second Line

- Flurandrenolide tape
- Doxepin cream

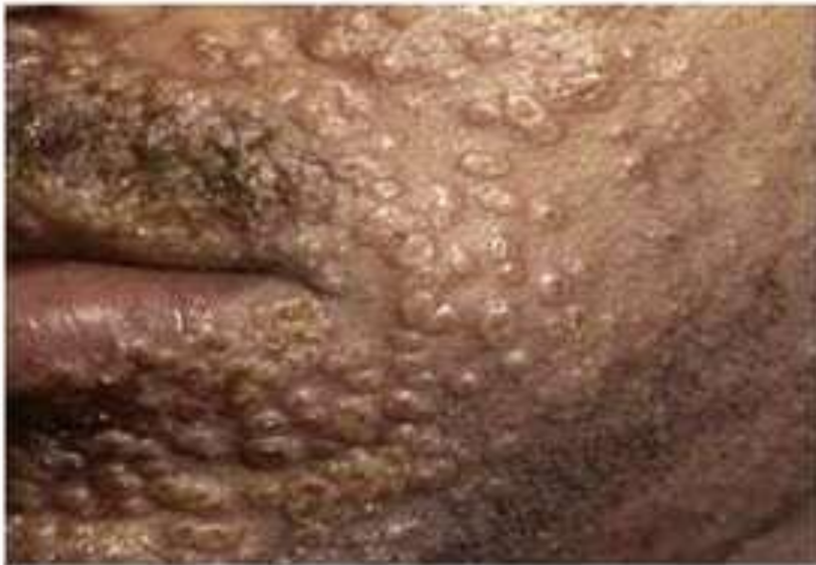
Third Line

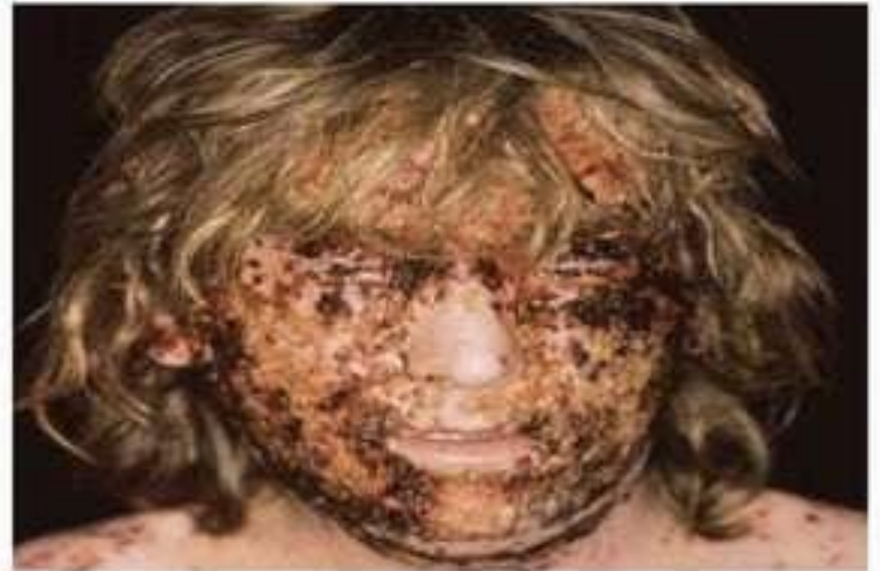
- Psychotherapy
- Anxiolytics, selective serotonin reuptake inhibitors (SSRIs)

4- Autoeczematisation

- **Definition**
- **Autoeczem atization (id reaction autosensitization)** is an eczematous reaction to an infection w ith parasites, fungi, bacteria or viruses. It is
- com pletely curable with the clearance of the original infection that caused it. The appearance varies depending on the cause. It always occurs some distance away from the original infection.

5- ECZEMA HERPETICUM





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ECZEMA HERPETICUM

Definition

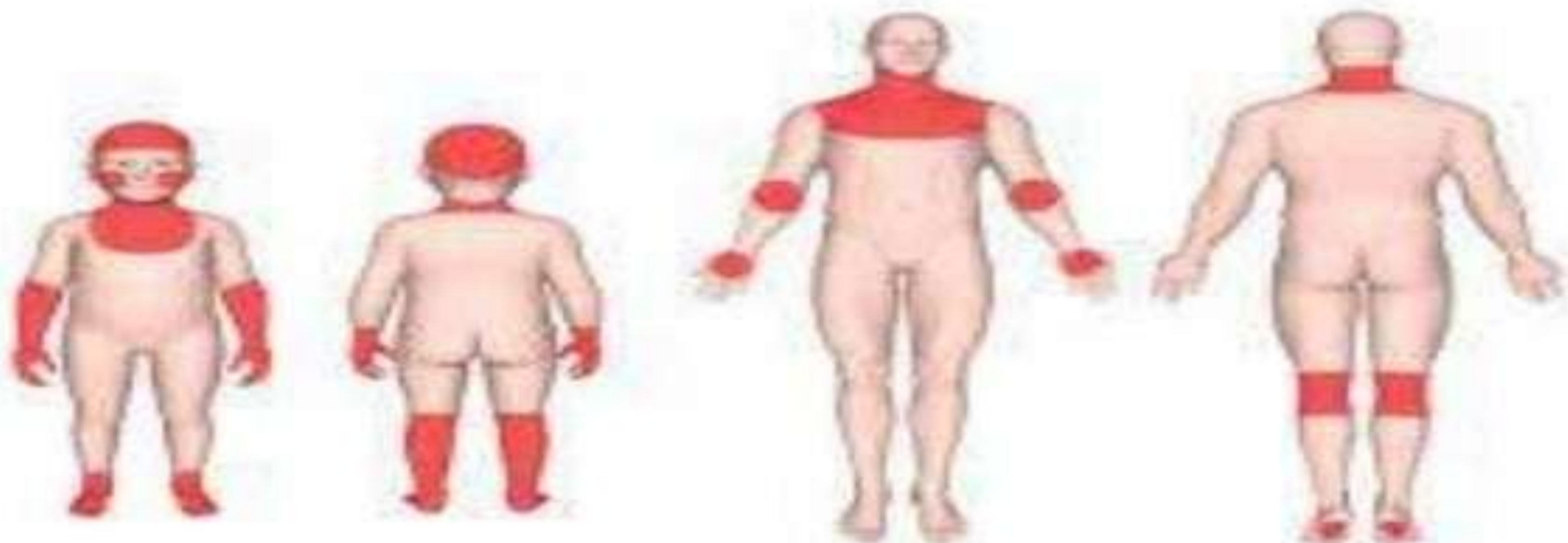
- **Eczema herpeticum**, also known as **Kapsiform varicelliform eruption**, is a widespread infection due to herpes simplex virus that occurs in patients with atopic dermatitis.

Etiology

- Herpes simplex virus

Clinical Manifestation(s)

- **This condition is most common in areas of atopic dermatitis,** often the face.
- Secondary bacterial infections may occur.



Clinical Manifestation(s)

Physical Examination

- Umbilicated vesicles and pustules in various stages
- "Punched out" hemorrhagic ulcers
- Crusts may coalesce and form eroded plaques.
- Secondary bacterial infections may occur.

Diagnostic Tests

- Herpesvirus cultures of fluid from intact vesicles

DIFFERENTIAL DIAGNOSIS

- Impetigo
- Contact dermatitis
- Pemphigus
- Dermatitis herpetiformis
- Bullous pemphigoid

TREATMENT

- Systemic antiviral agents (acyclovir, valacyclovir, famciclovir)

I HOPE TO YOU ALL THE BEST

BEST REGARDS