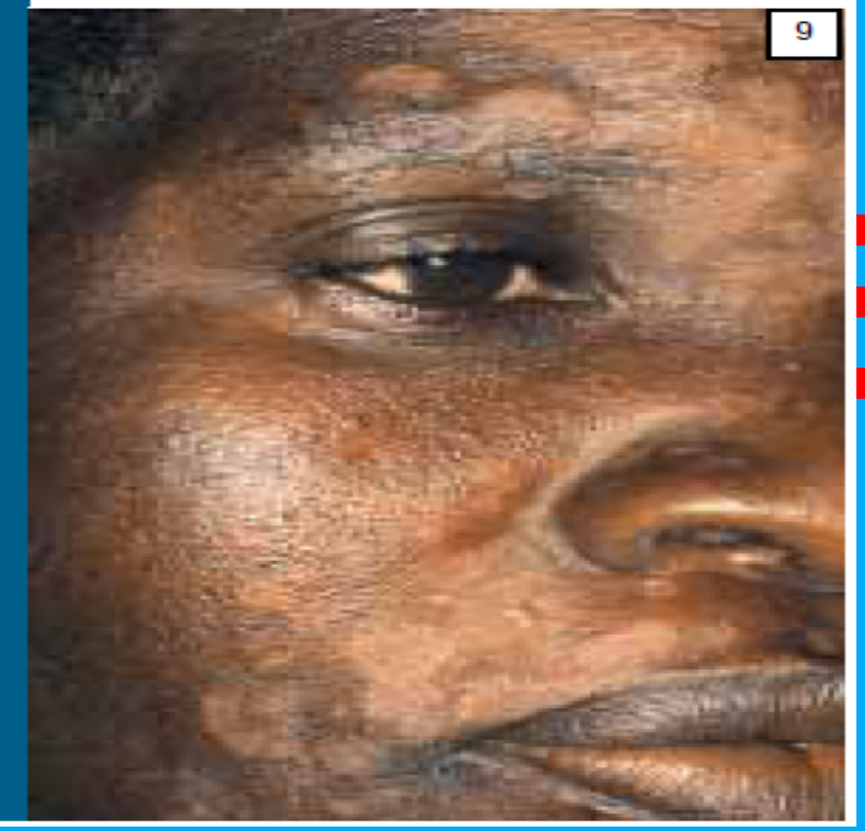
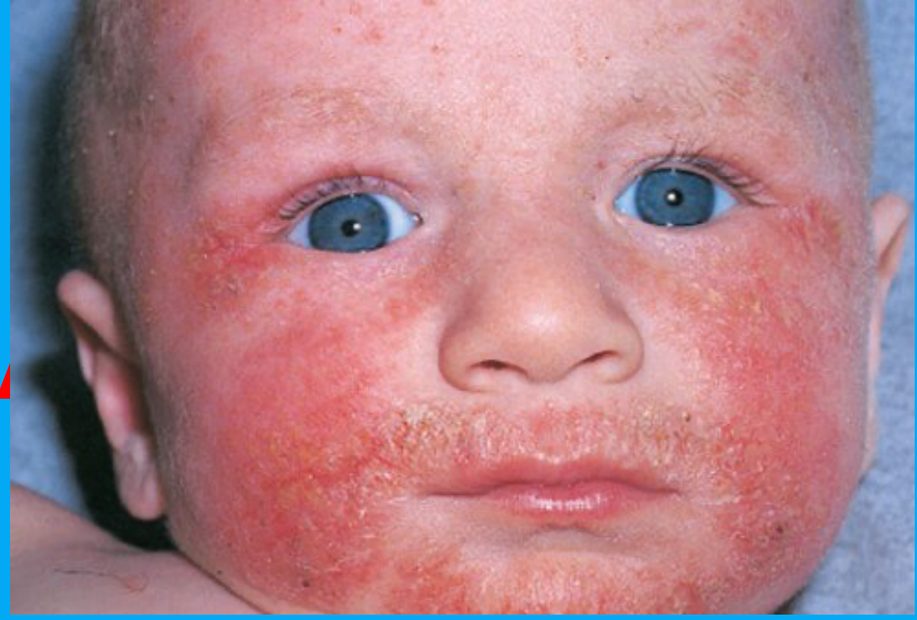


ECZEMA



LEARNING OUTCOMES

By the end of this session, each student should be able to;

1. Define eczema and explain the different types of eczema.
2. Outline the pharmacological and non-pharmacological management of the different types of eczema.

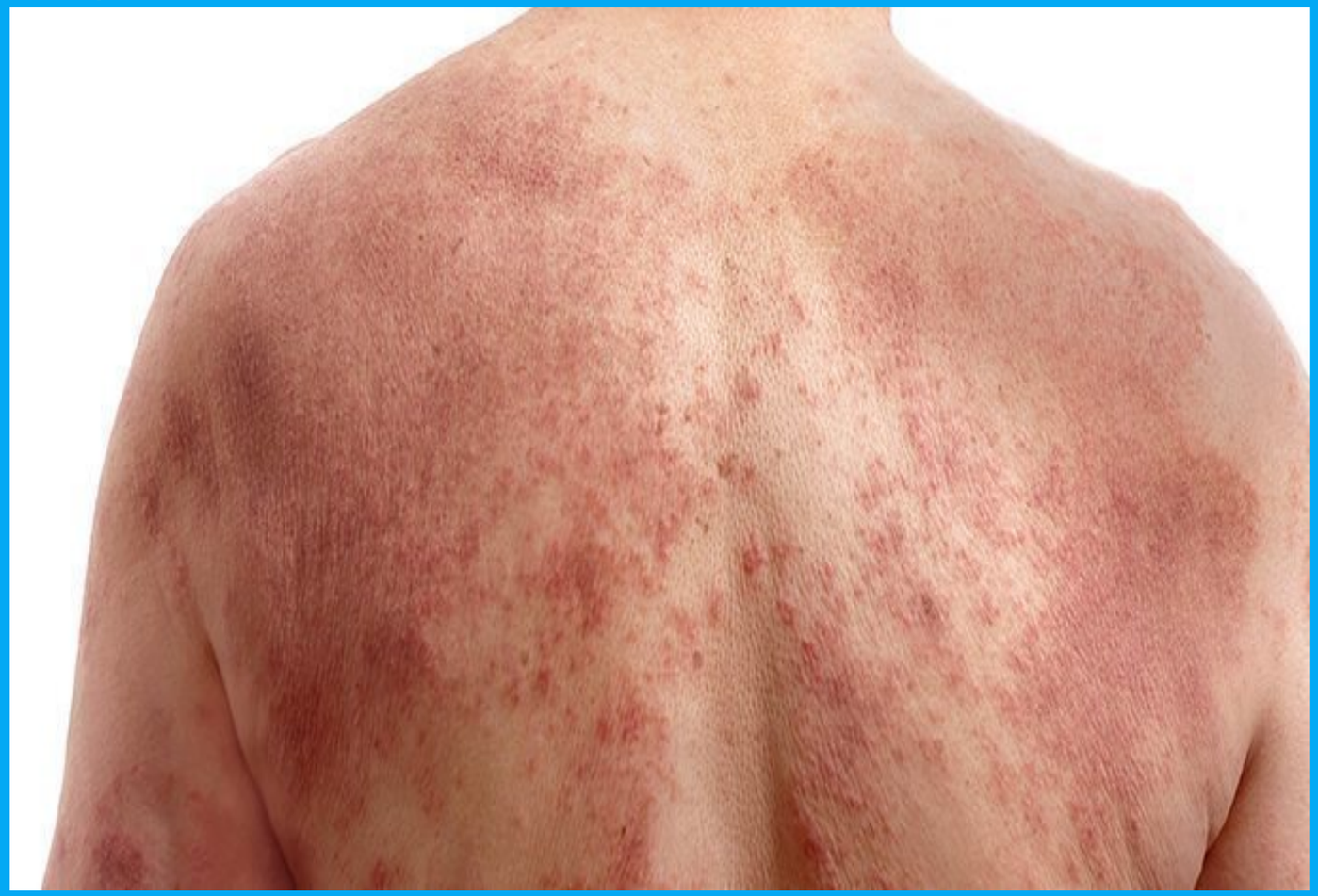
ECZEMA

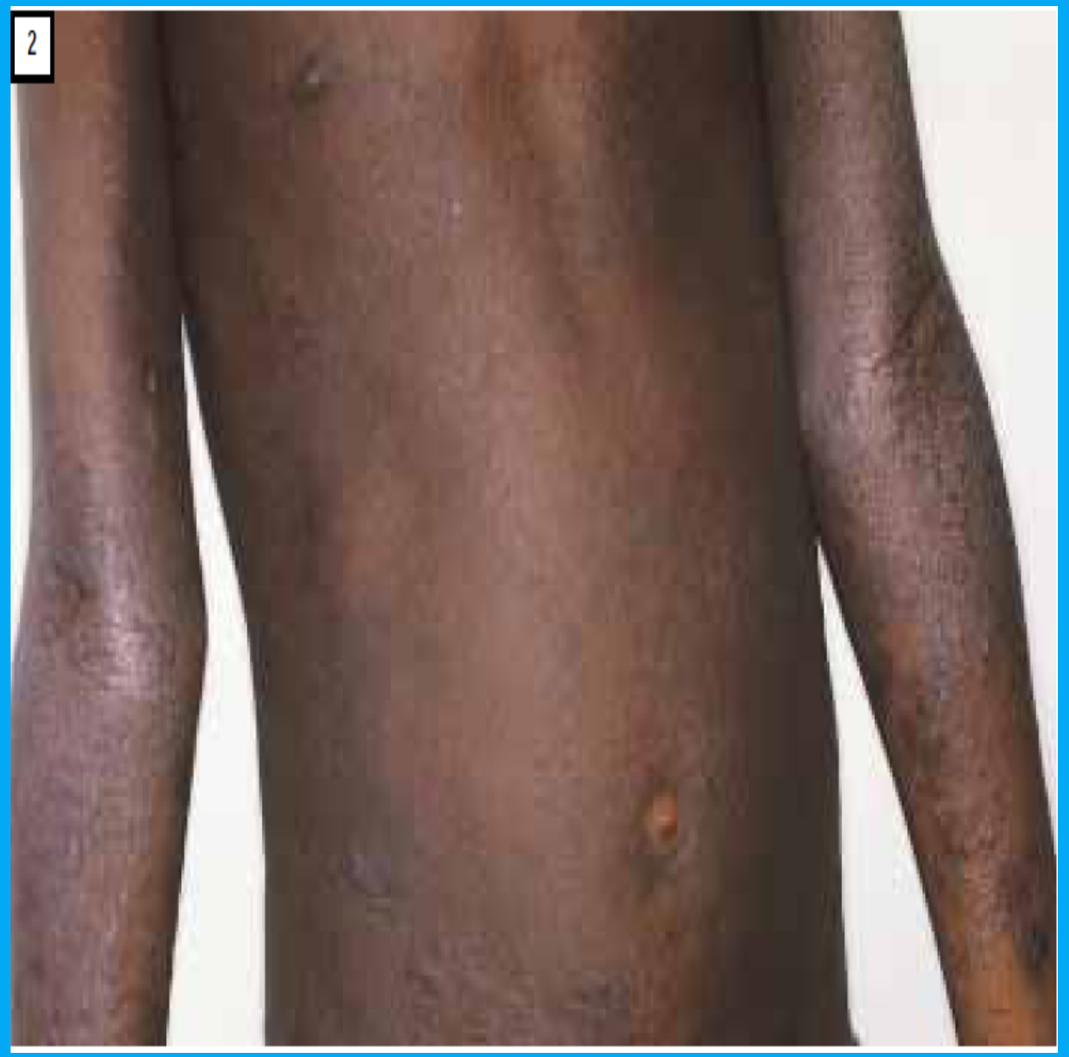
- The word ‘**Eczema’** derived from the Greek word **‘Eczein’,** Which means to boil; indicates vesiculation.
- It is a pruritic papulo vesicular process which in its acute phase is associated with erythema & edema histologicaly by spongiosis & which in its more chronic phases, while retaining some of its papulovesicular features is dominated by thickening, lichenification & scaling.
- The terms eczema & dermatitis are often used to describe the same condition. Eczema can quite simply be defined as a non-infectious inflammation of the skin. It may be acute, subacute or chronic.

TYPES OF ECZEMA

- Atopic eczema
- Pityriasis alba
- Infantile eczema
- Seborrhoic eczema
- Lichen simplex
- Infective eczema
- Contact eczema

ATOPIC ECZEMA





ATOPIC ECZEMA

Atopic eczema is a multifactorial skin disease seen in patients with an atopic constitution. This means that they have a genetic pre-disposition for hypersensitivity reactions such as asthma, hay fever.

The eczema comes and goes and may be triggered or worsened by dryness of the skin, infections, heat, sweating, contact with allergens or irritants and emotional stress.

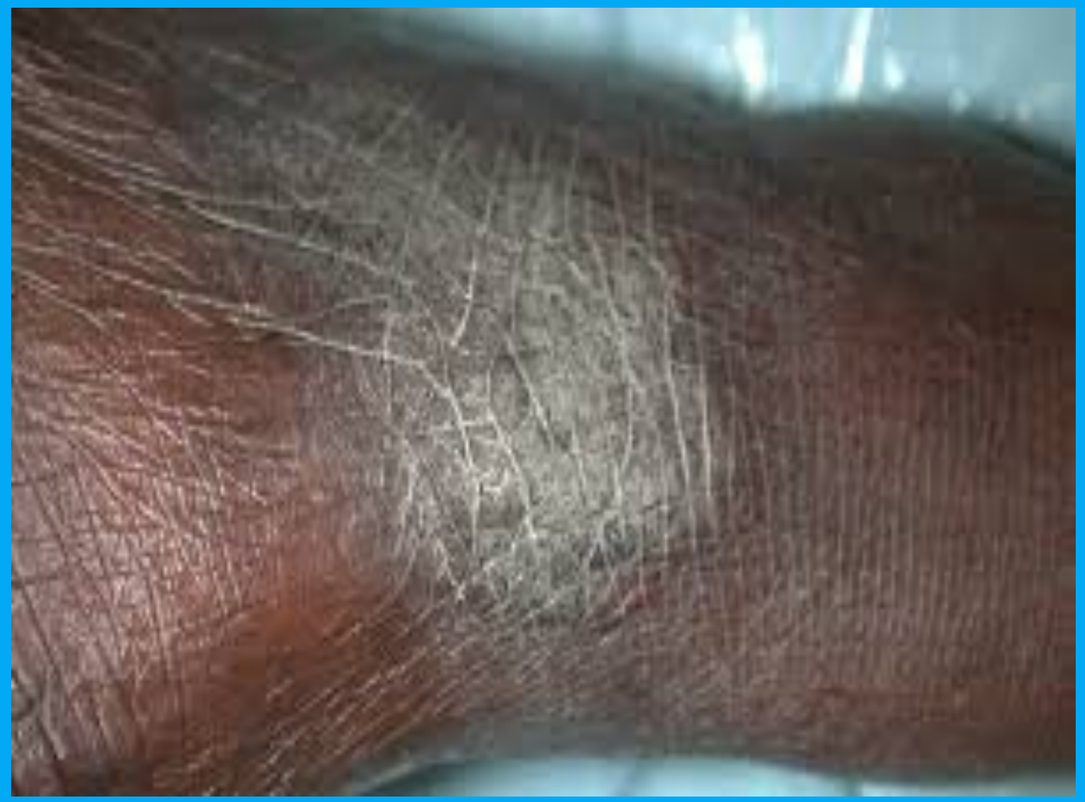
ATOPIC ECZEMA

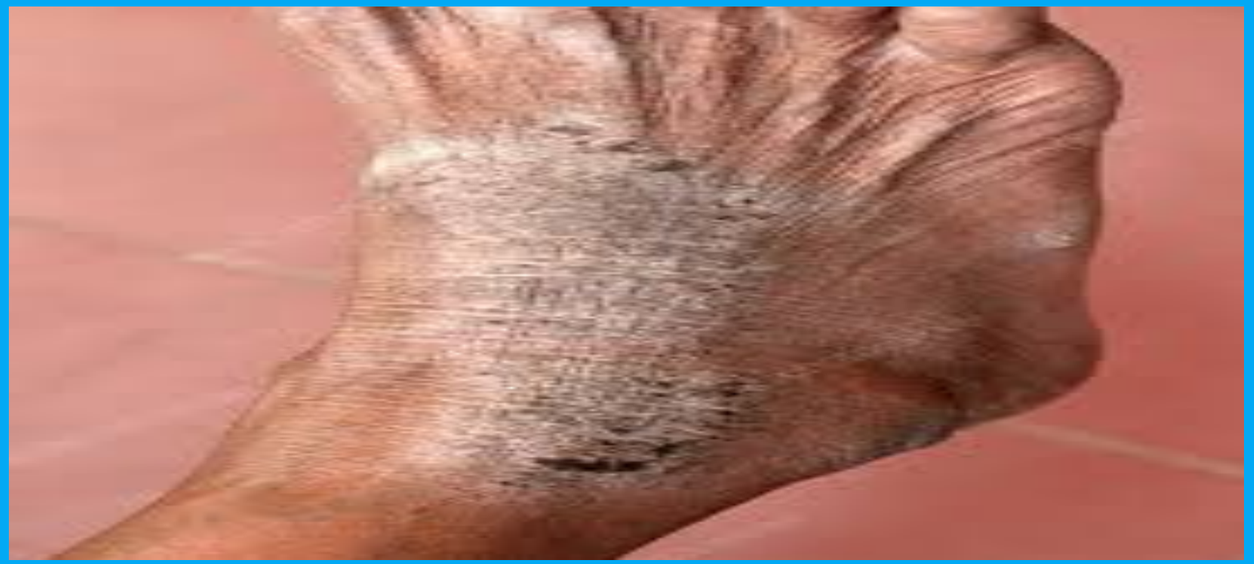
- Atopic eczema in children and adults appears in elbow- and knee-folds, on the wrists and ankles and on the face and neck, in some cases it may become generalised.

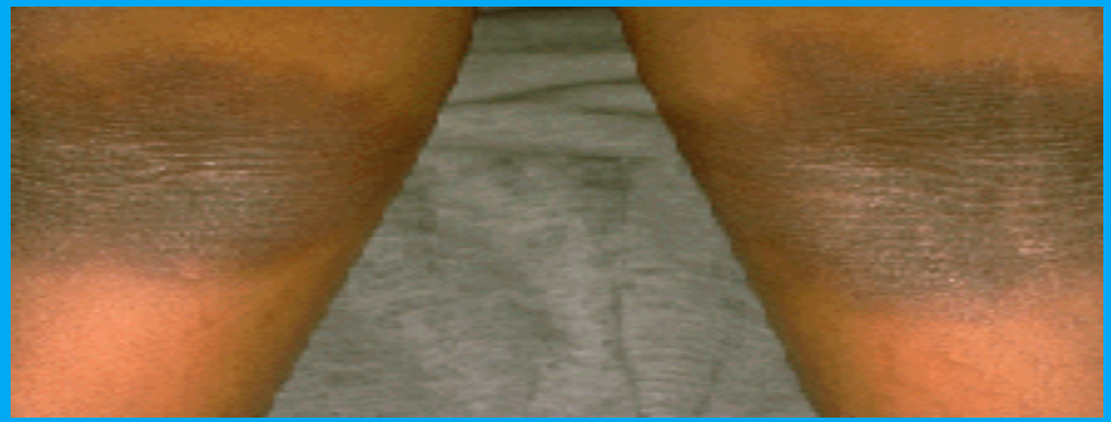
- Itch is an important feature.

- In long-standing disease lichenification is common.

LICHENIFICATION IS A SECONDARY SKIN LESION THAT IS CHARACTERIZED BY HYPERPIGMENTATION, THICKENING OF THE SKIN AND EXAGGERATED SKIN LINES







MANAGEMENT OF ATOPIC ECZEMA IN CHILDREN AND ADULTS

- Stop the use of irritants such as vaseline, mineral oils and soap. Avoid temperature extremes and contact with wool.

- Use a non-greasy moisturiser such as aqueous cream, if the skin is very dry urea 5% or 10% ointment.

- Soap is an irritant, especially if not rinsed off properly after use.

MANAGEMENT OF ATOPIC ECZEMA IN CHILDREN AND ADULTS

- Hydrocortisone 1% (cream for acute or wet, ointment for chronic or dry lesions) once to twice daily until lesions clear, usually in about 2 weeks.

- In severe or refractive cases a stronger steroid e.g. Betamethasone 0.1% once daily for 1-2 weeks.

MANAGEMENT OF ATOPIC ECZEMA IN CHILDREN AND ADULTS

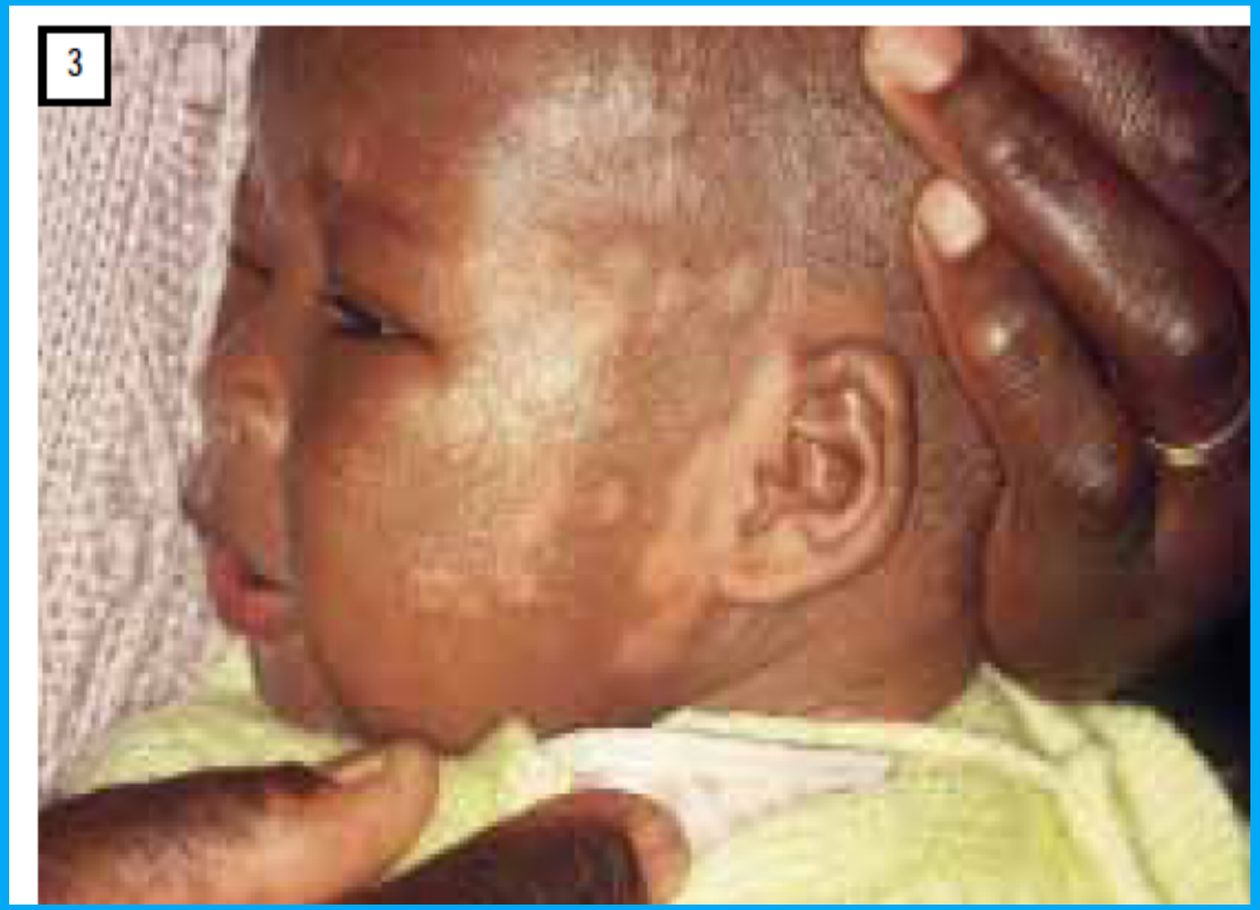
Chronic lichenified cases: coal tar 2-10% paste/ointment at night.

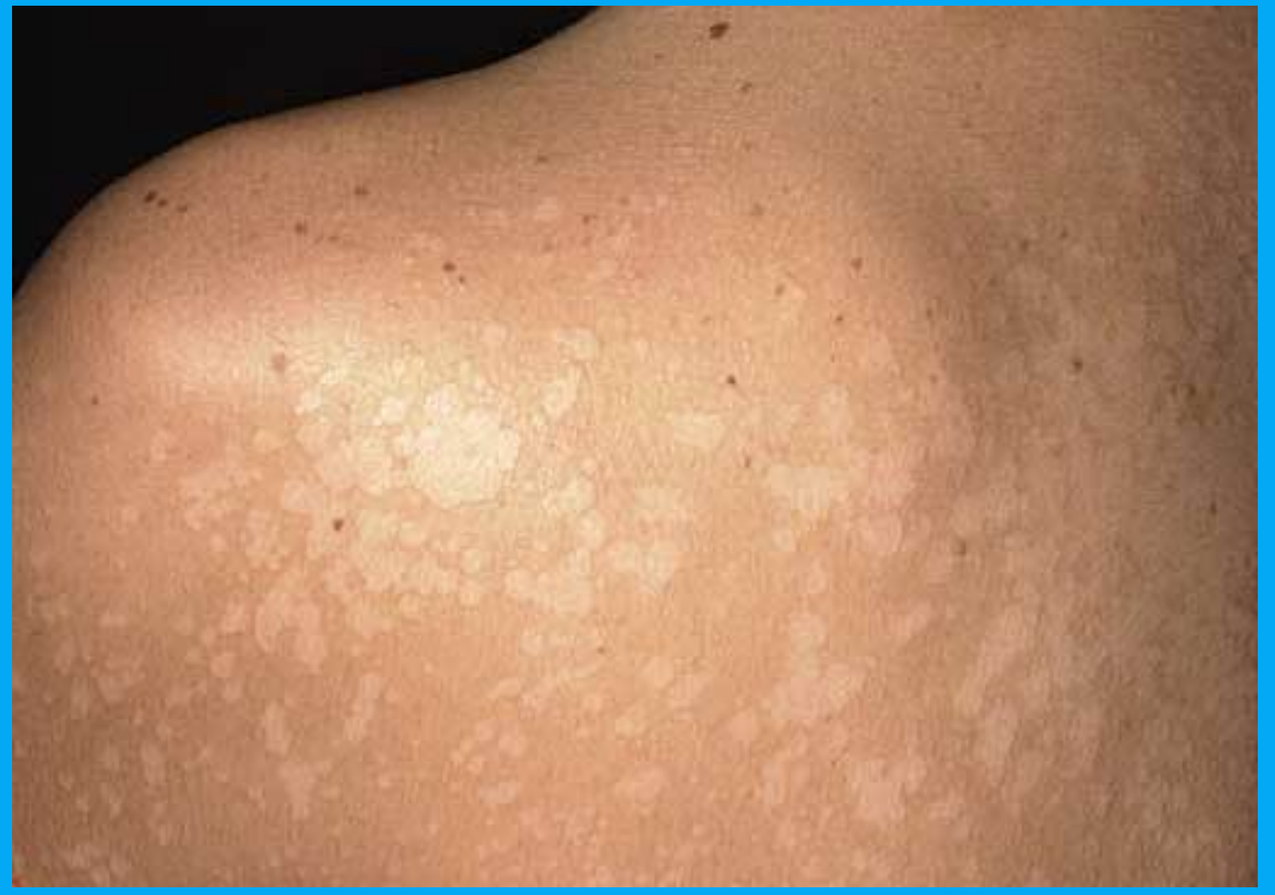
- For severe itchiness use antihistamines e.g. Promethazine 25mg at night.

- For bacterial superinfection use Betadine shampoo as a soap or when weepy bath in Potassium permanganate 1:4000 solution.

In severe or widespread infection give antibiotics (Cloxacillin, Erythromycin) as in *impetigo*

PITYRIASIS ALBA





PITYRIASIS ALBA

- Pityriasis alba is a mini-form of eczema which occurs predominantly in infants, children and adolescents.

- Multiple hypopigmented, vaguely bordered, very finely scaling patches are found on the face and/or trunk, and sometimes the extremities.

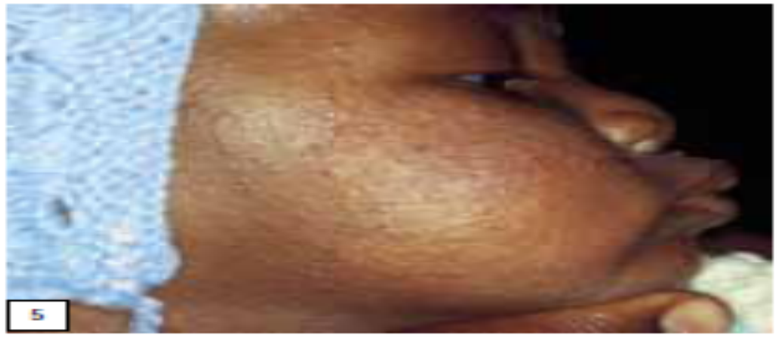
- This can persist for years and the hypopigmentation usually does not clear with steroids, but will clear in time. Explain to parents.

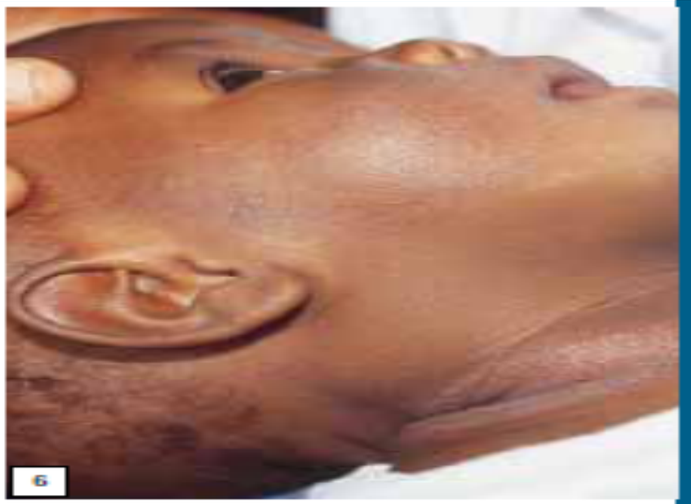
MANAGEMENT OF PITYRIASIS ALBA

- A short course of Hydrocortisone 1% cream or ointment for pityriasis alba may be given.
- In case of pruritus or when there is evidence of concomitant atopic eczema.
- Usually it is enough to explain to the patient or the parents that the condition is not serious and will disappear in time.

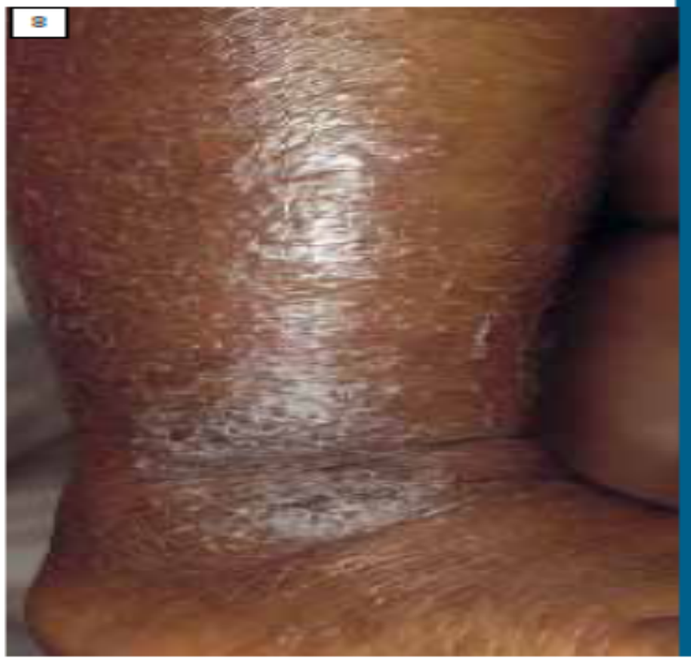
INFANTILE ECZEMA

Fig. 5. Papular infantile eczema on the face in a 5 month old girl.
Fig. 6. A common localisation of infantile eczema is the neck. The use of hats or caps with straps around the neck should be discouraged.
Fig. 7 & 8. Infected infantile eczema.


5


6


7


8

INFANTILE ECZEMA

Atopic eczema that affects infants and may be infected most of the times.

Management

Explain to the parents the recurrent nature of the disease! Also reassure them that the eczema will most likely clear completely after some months to years.

Advise to stop the use of irritants such as vaseline & excessive use of soap

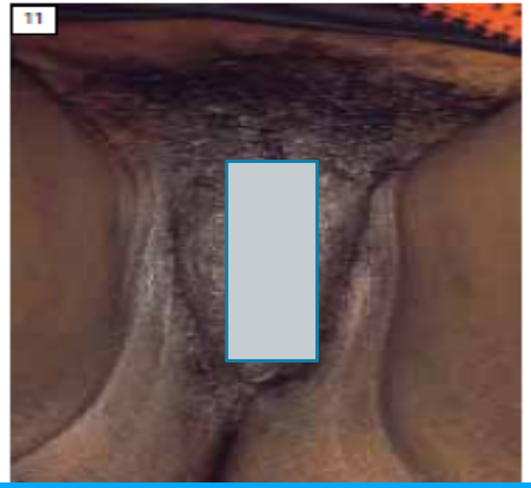
Recommend a moisturiser (aqueous cream, emulsifying ointment

MANAGEMENT OF INFANTILE ECZEMA

- Hydrocortisone 1% once to twice daily until lesions clear, usually 1 or 2 weeks.
- In chronic cases with lichenification: coal tar 2-10% paste or ointment Apply this nightly because of its photosensitising potential.
- Eczema in the nappy area, armpits and on the scalp is usually seborrhoic in origin: use an imidazole or Sulphur 3-5% cream/ointment twice daily.
- In the nappy area cover with a thick layer of Zinc oxide paste.
- For superinfection use Betadine shampoo or bathe in Potassium permanganate 1:4000 solution and if necessary antibiotics (Cloxacillin, Erythromycin).

SEBORRHOIC ECZEMA

Fig. 10. Infected Seborrhoic eczema of the groin in a HIV positive 7 year old boy.
Fig. 11 & 12. Seborrhoic eczema of groin and armpit easily becomes superinfected and is very common in HIV infected patients.



SEBORRHOIC ECZEMA

- This is an eczema with classically greasy scales on seborrhoic areas of the skin; scalp, border of forehead/scalp, behind ears, above and in between eyebrows, in nasolabial folds, chin, the sternum, the middle of the upper back in between the shoulder blades, in axilla, groin and perianal area.
- Constitutional and stress factors play a role as well as a yeast, pityrosporum ovale, which is found in sebaceous glands.
- Patients often complain of oily skin as a result of their pronounced sebum production.
- The eczema resolves and re-emerges.
- HIV complicates condition.

MANAGEMENT OF SEBORRHOIC ECZEMA

Stop vaseline, use a non-greasy or no moisturiser.

For minor lesions e.g. only on seborrhoic areas in the face and on the scalp:

- An imidazole cream twice daily (suppresses pityrosporon) with or without Hydrocortisone, Sulphur 3-5% cream with or without Hydrocortisone, or Hydrocortisone cream twice daily.
- For chronic scaling Salicylic acid 2-5% ointment or Sulphur 2-5% ointment.
- Warn the patient that the eczema will probably recur

MANAGEMENT OF SEBORRHOIC ECZEMA

For acute and severe, widespread lesions (usually infected):

- Hydrocortisone cream once or twice daily.

- An imidazole cream twice daily.

- Ketaconazole ***(Hepatotoxic)*** 200mg once daily or 200mg on alternate days orally

1-3 weeks.

- Antibiotics and Betadine scrub/Potassium permanganate solution as required.

MANAGEMENT OF SEBORRHOIC ECZEMA

For chronic recurrent widespread lesions:

- At night: Coal tar 2-6% in Zinc paste or Coal tar ointment or Coal tar + Sulphur 5-10% ointment (not on wet lesions).

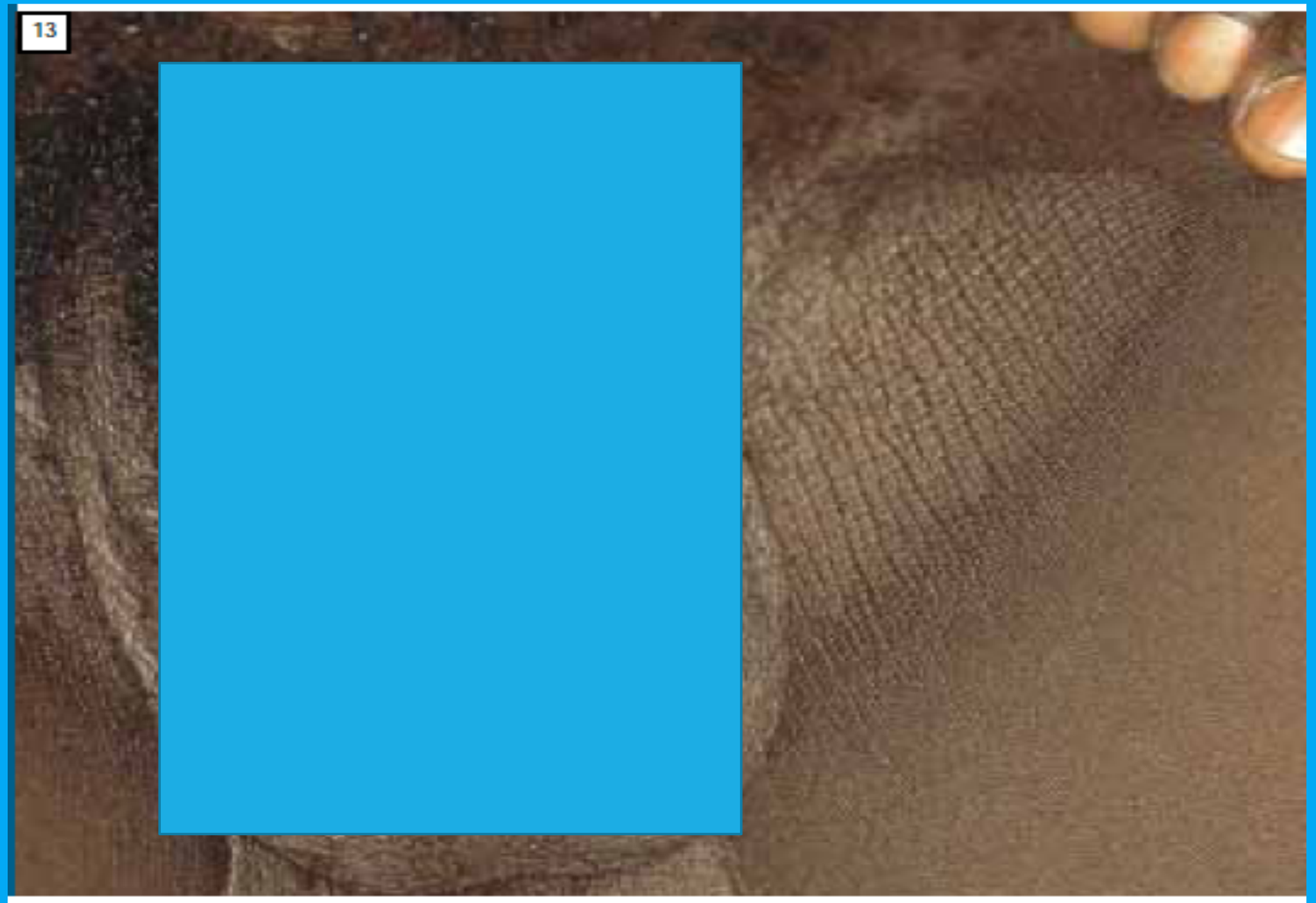
- Daytime: Hydrocortisone cream or betamethasone cream once daily and / or an imidazole cream twice daily.

- Salicylic acid 2% or 5% ointment twice daily for dry scaling lesions.

- Systemic Ketaconazole in low doses as above may be added when severe.

- Antibiotics and antiseptics as required.

LICHEN SIMPLEX



LICHEN SIMPLEX

- In lichen simplex there is one (sometimes more) well-circumscribed patch of lichenified skin which is very itchy.

- Lichenification means thickening of the skin with exaggerated skin lines and this is usually caused by continuous scratching.

MANAGEMENT OF LICHEN SIMPLEX

- The vicious circle of -itch-scratch-lichenification-itch- needs to be broken.
- The patient must therefore make a conscious effort to stop scratching!
- Coal tar ointment or Coal tar in Zinc paste applied nightly to reduce itching.
- Application of simple Zinc-adhesive tape may prevent scratching and help to break the vicious cycle.
- A strong topical steroid, especially if applied at night under plastic occlusion (e.g. twice weekly) is usually very effective. To do this cover the lesion with plastic after applying the steroid, then tape the sides of the plastic to surrounding skin. Do not apply plastic

INFECTIVE ECZEMA

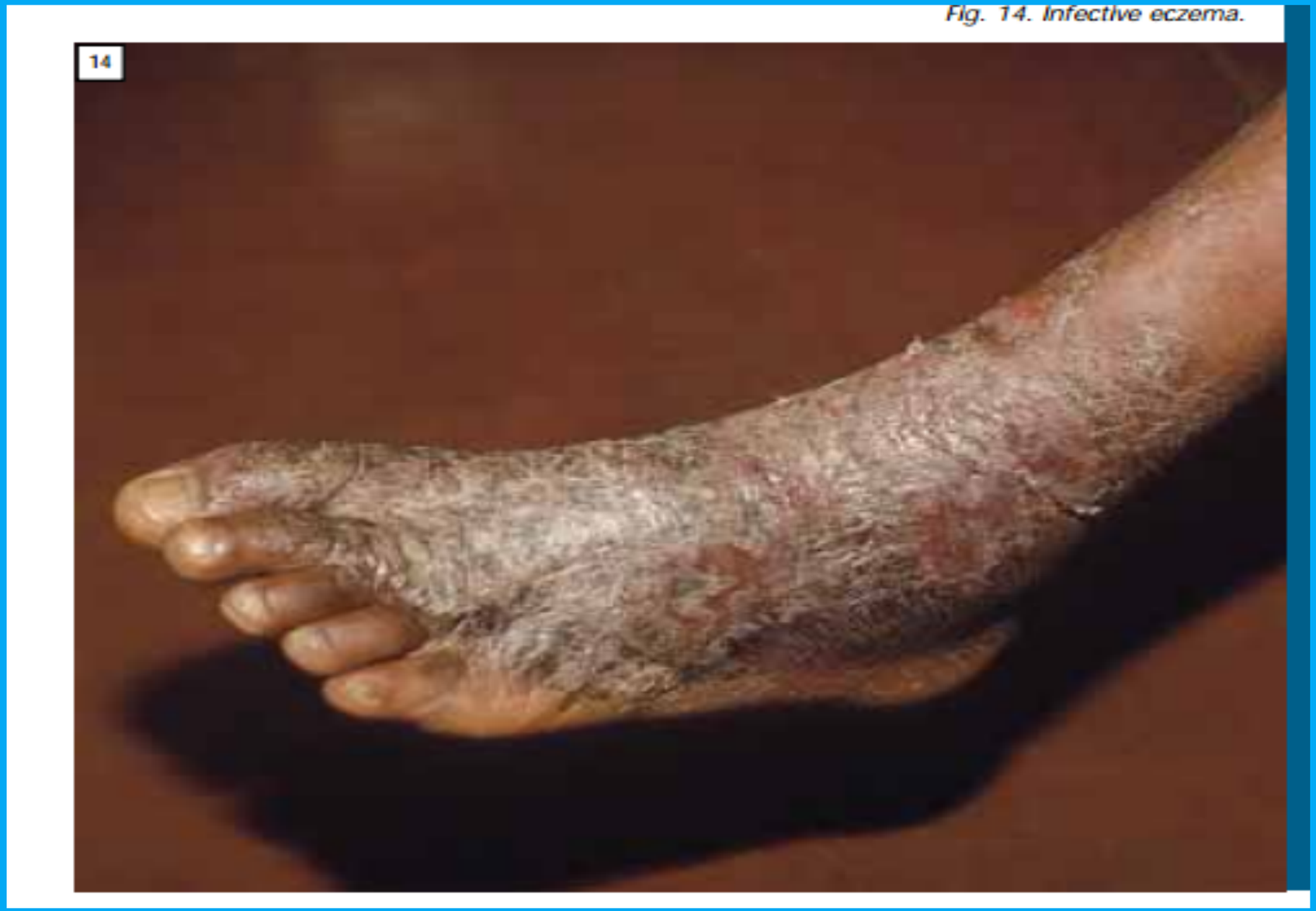


Fig. 14. Infective eczema.

INFECTIVE ECZEMA

- This is an eczema which occurs as a response to an oozing skin infection.
- The most common localisation is the foot/ankle region, especially around the instep.
- Causative organisms are usually staphylococci or streptococci.
- Vaseline often aggravates the condition.

MANAGEMENT OF INFECTIVE ECZEMA

- Stop the use of vaseline.
- Treat the infection with antibiotics (Cloxacillin, Erythromycin) and/or antiseptics (Betadine solution/scrub, GV paint, Potassium permanganate baths).
- When dry, add a topical steroid, starting with hydrocortisone cream twice daily.
- Client should avoid scratching (instruct the patient, use aqueous cream, calamine lotion, keep fingernails short, cover at night) and infection (use Betadine scrub as a soap for 4 weeks).

CONTACT ECZEMA

CONTACT ECZEMA

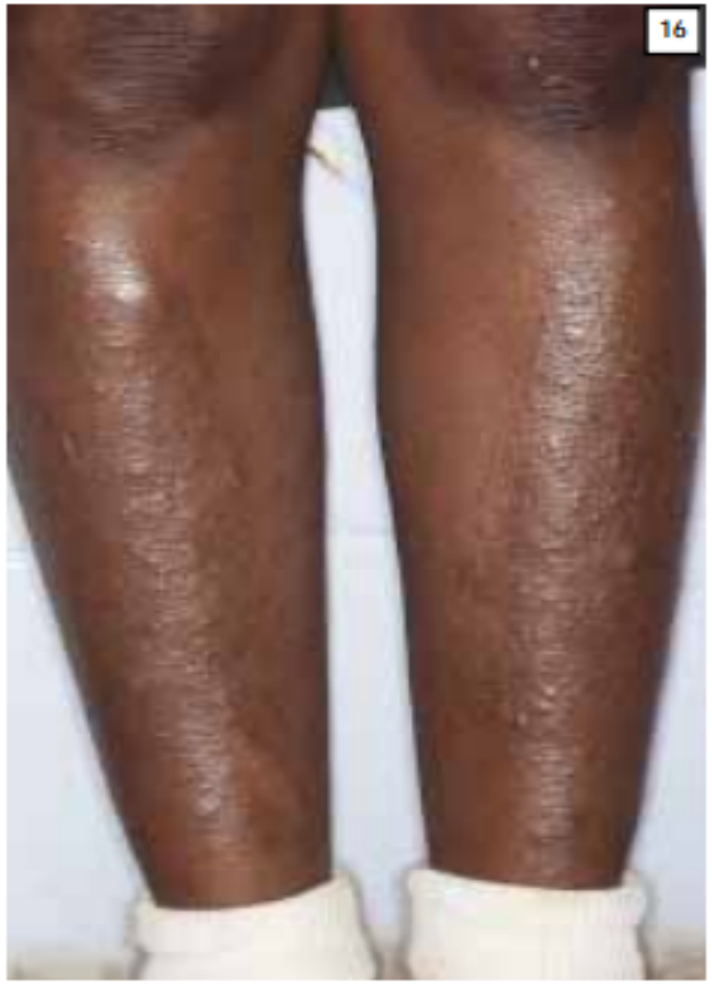


Fig. 16. Typical papules and pustules of "vaseline dermatitis" in a 14 year old schoolgirl.
Fig. 17. Acute photo-allergic contact eczema, in this case caused by Lifebuoy soap.

CONTACT ECZEMA

- Contact eczema is caused by contact of the skin with an irritant or an allergen.

- Chronic irritant contact eczema is caused by excessive, repeated contact of an irritant with the skin.

- Vaseline commonly causes "vaseline dermatitis"

MANAGEMENT OF CONTACT ECZEMA

-Avoid soap and vaseline, use aqueous cream/emulsifying ointment instead.

Vaseline dermatitis: use Calamine or Phenol-zinc lotion, Betadine scrub or shampoo, use no vaseline for months or rather years.

Severe infection: Cloxacillin or Erythromycin for 1 week.

Acute contact eczema: Wet dressings with saline or Potassium permanganate solution twice daily. For itch Calamine lotion or Phenol-zinc lotion. When dry a topical steroid cream e.g. Hydrocortisone 1% twice daily. Antihistamines orally e.g. Promethazine 25mg nightly for 5 days.

MANAGEMENT OF CONTACT ECZEMA

Chronic contact eczema: Hydrocortisone 1% ointment, if necessary stronger topical steroid.

Coal tar ointment for itch nightly.

Aqueous cream, emulsifying ointment.

If lichenified: urea 10% ointment or salicylic acid 2-5% ointment twice daily.

If photo-allergic: sunprotection (sunhat, long sleeves, high collar)

TOPICAL IMMUNOMODULATORS

These agents modify immune processes that promote inflammation

PIMECROLIMUS CREAM

Description- Indicated for eczema and atopic dermatitis. First nonsteroid cream approved in the United States for mild-to-moderate atopic dermatitis. Derived from ascomycin, a natural substance produced by fungus Streptomyces hygroscopicus var. ascomyceticus.

M/A- Selectively inhibits production and release of inflammatory cytokines from activated T cells by binding to cytosolic immunophilin receptor macrophilin-12. Resulting complex inhibits phosphatase calcineurin, thus blocking T-cell activation and cytokine release.

Advantage- Cutaneous atrophy was not observed in clinical trials, a potential advantage over topical corticosteroids.

Adult Dose- Apply topically to affected areas bid

Pediatric Dose- <2 years: Not established

>2 years: Administer as in adults

Contraindications- Documented hypersensitivity

Interactions- None reported

Pregnancy C- Fetal risk revealed in studies in animals but not established or not studied in humans; may use if benefits outweigh risk to fetus

Precautions- Potential exacerbation of existing infection at site of application; may cause burning and irritation.

TACROLIMUS

Description/MA- Reduces itching and inflammation by suppressing release of cytokines from T cells. Also inhibits transcription for genes that encode interleukins, granulocyte macrophage stimulating factor, and TNF-alpha, all of which are involved in the early stages of T- cell activation. Additionally, may inhibit release of preformed mediators from skin mast cells and basophils and may down-regulate expression of FCER1 on Langerhans cells.

Specialty- Can be used in patients as young as 2 y. More expensive than topical corticosteroids. Available as ointment in concentrations of 0.03 and 0.1%.

Adult Dose- Apply thin layer to affected skin areas bid and rub in gently & completely; continue treatment for 1 wk after clearing of signs & symptoms

Pedi Dose- <2 years: Not established

2-15 years: Apply 0.03% ointment bid to affected areas

>15 years: Administer as adults

Contraindications- Documented hypersensitivity

Interactions- None reported

Pregnancy- C - Fetal risk revealed in studies in animals but not established or not studied in humans; may use if benefits outweigh risk to fetus.

Precautions- Burning sensation during first few days of application; skin can become photosensitive and patients should be cautioned about exposure to direct or artificial sunlight and to use sunscreen; safety and efficacy in infected atopic dermatitis not known; application under occlusion, which may promote systemic exposure, has not been evaluated (do not use with occlusive dressings); absorption following topical applications is minimal (relative to systemic administration), but tacrolimus is excreted in human milk and, thus, a decision should be made whether to discontinue nursing or to discontinue drug, taking into account importance of drug to mother (potential for serious adverse reactions in nursing infants from tacrolimus should also be a concern)

CORTICOSTEROIDS

Have anti-inflammatory properties and cause profound and varied metabolic effects.

In addition, these agents modify the body's immune response to diverse stimuli.

CLOBETASOL

0.05% CREAM OR OINTMENT

Description- Class I superpotent topical steroid; suppresses mitosis and increases synthesis of proteins that decrease inflammation and cause vasoconstriction.

Adult Dose- Apply bid for up to 2 wk; not to exceed 50 g/wk

Pediatric Dose- Not established

Contraindications- Documented hypersensitivity; viral or fungal skin infections

Interactions- None reported

Pregnancy- C - Fetal risk revealed in studies in animals but not established or not studied in humans; may use if benefits outweigh risk to fetus

Precautions- May suppress adrenal function in widespread or prolonged therapy; superpotent topical steroid and, in general, should not be applied to face or intertriginous areas except under care and

AMCINONIDE

Description- Highly potent, fluorinated corticosteroid

M/A- (Class 2-3). Suppresses mitotic activity and causes vasoconstriction. Stimulates synthesis of enzymes needed to decrease inflammation. May suppress histamine release associated with pruritus.

Adult Dose- Apply thin film up to tid

Ped Dose- Not established

Contraindications- Documented hypersensitivity; fungal or viral infection, including herpes simplex or tubercular skin lesions; avoid application on face, groin, or axilla

Interactions- None reported

Pregnancy- C - Fetal risk revealed in studies in animals but not established or not studied in humans; may use if benefits outweigh risk to fetus

Precautions-Systemic effects may occur if used over large areas, denuded areas of the body, or prolonged periods of time; occlusive dressing should not be used in presence of infection or weeping lesions; prolonged use may result in atrophy (especially in groin, axilla, and face), rosacealike eruption, striae distensae, or increased skin fragility

FLUOCINOLONE

Description- Fluorinated corticosteroid of mid

M/A- potency with 0.025% (class 4-5) and mild potency with 0.01% (class 6).

Adult Dose- Apply sparingly up to qid as severity warrants

Pediatric Dose- Administer as in adults

Contraindications- Documented hypersensitivity; herpes simplex infection; fungal, viral, or tubercular skin lesions

Interactions- None reported

Pregnancy- C - Fetal risk revealed in studies in animals but not established or not studied in humans; may use if benefits outweigh risk to fetus

Precautions-May cause systemic effects if used over large areas, on denuded areas, or for prolonged periods; do not use occlusive dressing in presence of infection, in weeping lesions, or for ultrapotent corticosteroids; rarely, worsening or no improvement may signify allergy to corticosteroids

TRIAMCINOLONE

Description- For inflammatory dermatosis responsive to steroids; decreases inflammation by suppressing migration of polymorphonuclear leukocytes and reversing capillary permeability. Intramuscular injection may be used for widespread skin disorder or intralesional injections may be used for localized skin disorder.

Adult Dose- 40-60mg IM, may repeat in 4-6 wk

3-10 mg/mL intralesional

Pediatric Dose- <6 years: Not establish

6-12 years: 0.03-0.2mg/kg IM

>12 years: Administer as in adults

Contraindications- Documented hypersensitivity; fungal, viral, and bacterial skin infections

Interactions- Co-administration with Barbiturates, Phenytoin, and Rifampin decreases effects of Triamcinolone

Pregnancy-C- Fetal risk revealed in studies in animals but not established or not studied in humans; may use if benefits outweigh risk to fetus.

Precautions- Multiple complications (eg, severe infections, hyperglycemia, edema, osteonecrosis, myopathy, peptic ulcer disease, hypokalemia, osteoporosis, euphoria, psychosis, myasthenia gravis, growth suppression) may occur; abrupt discontinuation of glucocorticoids may cause adrenal crisis; SC injection may cause skin atrophy that may be slow to recover

HYDROCORTISONE

CREAM OR OINTMENT

Description- Adrenocorticosteroid derivative suitable for application to skin or external mucous membranes. Has mineralocorticoid and glucocorticoid effects resulting in anti-inflammatory activity.

Adult Dose- Apply sparingly to affected areas bid

Pediatric Dose- Apply as in adults

Contraindications- Documented hypersensitivity; viral, fungal, and bacterial skin infections

Interactions- None reported

Pregnancy- C - Fetal risk revealed in studies in animals but not established or not studied in humans; may use if benefits outweigh risk to fetus

Precautions- Prolonged use, applying over large surface areas, application of potent steroids, and occlusive dressings may increase systemic absorption of corticosteroids and may cause Cushing syndrome, reversible HPA-axis suppression, hyperglycemia, and glycosuria; ointment is more potent than cream and, in general, more caution should be exercised; should not be applied to face or intertriginous areas except under care and close supervision of experienced dermatologist; skin atrophy, striae, or other problems may result from inappropriate use.

PREDNISOLONE

Description/MA- Immunosuppressant for treatment of autoimmune disorders; may decrease inflammation by reversing increased capillary permeability and suppressing polymorphonuclear activity. Stabilizes lysosomal membranes and also suppresses lymphocytes and antibody production.

Adult Dose- 40-60mg/d PO qd or divided bid/qid; taper over 2-3 wk, as symptoms resolve; 0.5-2mg/kg/d; taper as condition improves; single morning dose is safer for long-term use, but divided doses have more anti-inflammatory effect

Pediatric Dose- 4-5mg/m2/d PO; alternatively, 0.05-2mg/kg PO divided bid/qid; taper over 2-3 wk, as symptoms resolve

Contraindications- Documented hypersensitivity; viral infection, peptic ulcer disease; hepatic dysfunction; connective tissue infections; fungal or tubercular skin infections

Interactions- Co-administration with estrogens may decrease prednisolone clearance; when used with digoxin, digitalis toxicity secondary to hypokalemia may increase; phenobarbital, phenytoin, and rifampin may increase metabolism of glucocorticoids (consider increasing maintenance dose); monitor for hypokalemia with co- administration of diuretics

Pregnancy- B - Fetal risk not confirmed in studies in humans but has been shown in some studies in animals

Precautions- Hyperglycemia, edema, osteonecrosis, myopathy, peptic ulcer disease, hypokalemia, osteoporosis, euphoria, psychosis, myasthenia gravis, growth suppression, and infections may occur with glucocorticoid use; abrupt discontinuation may cause adrenal crisis