Al-Esra'a University / College of Pharmacy 4th Stage / 1st semester

Clinical Pharmacy Lab. 8

Skin Condition In Practice (Part 2): Dandruff, Eczema And Mouth Ulcer

Dandruff

Is a chronic relapsing noninflammatory **hyperproliferative skin** condition of the scalp, which responds to treatment but often returns when treatment is stopped. The condition usually appears during puberty and reaches a peak in early adulthood. Dandruff has been estimated to affect **1 in 2** people aged between 20 and 30 years and up to **4 in 10** of those aged between 30 and 40 years. It is considered to be a mild form of seborrheic dermatitis, associated with an overgrowth of the yeast *Malassezia furfur*.

What you need to know ?

Appearance

Dandruff is characterized by greyish-white flakes or scales on the scalp and an itchy scalp as a result of excessive scaling. It may also affect **beards**. In dandruff the epidermal cell turnover is at twice the rate of those without the condition.

Location

In dandruff the scalp (and sometimes beard) **is the only area affected.**

(More widespread seborrheic dermatitis affects the areas where there is greatest sebaceous gland activity, so it can affect eyebrows, eyelashes, beard and moustache, paranasal clefts, behind the ears, nape of neck, forehead and chest. In infants seborrheic dermatitis occurs as cradle cap, appearing in the first 12 weeks of life).

Severity

Dandruff is generally a mild condition. However, the itching scalp may lead to scratching, which may break the skin, causing soreness and the possibility of infection. If the scalp is very sore or there are signs of infection (crusting or weeping), referral would be indicated.

Aggravating factors

Hair dyes and perms can irritate the scalp. Inadequate rinsing after shampooing the hair can leave traces of shampoo, causing irritation and itching.

When to refer ?

Suspected psoriasis, Severe cases: seborrheic dermatitis, Signs of infection, and Unresponsive to appropriate treatment.

Management

- ✓ Dandruff should start to improve within 1 to 2 weeks of beginning treatment.
- ✓ The aim of the treatment is to reduce the level of ***M. furfur*** on the scalp;
- ✓ Agents with antifungal action are effective. Ketoconazole, zinc pyrithione and coal tar are safe to be used in all age group and in pregnant while selenium sulphide should be used in children older than 5 years old and to be avoid during pregnancy.
- ✓ Ketoconazole is the most effective and coal tar is the least effective of these choices.
- ✓ Most treatments need to be left on the scalp (and beard where relevant) for 5 min for full effect.
- ✓ It is the scalp that needs to be treated rather than the hair.
- ✓ Patients need to understand that the treatment is unlikely to cure their dandruff permanently and that it will be sensible to use the treatment on a less frequent basis.
- ✓ Between applications of their treatment, the patients can continue to use their normal shampoo.

1. Zinc pyrithione

Zinc pyrithione is an active ingredient in several 'antidandruff shampoos' and is effective against dandruff. It should be used twice weekly for the first 2 weeks and then once weekly as required.

2. Ketoconazole

Ketoconazole 2% shampoo is used twice a week for 2–4 weeks, after which usage should reduce to weekly or fortnightly as needed to prevent recurrence. It is considered first line in moderate-to-severe dandruff. The shampoo can also be used in seborrheic dermatitis. While shampooing the lather can be applied to the other affected areas and left before rinsing. Ketoconazole is not absorbed through the scalp and side effects are extremely rare.

3. Selenium sulphide 2.5%

Selenium sulphide has been shown to be effective. Twice-weekly use for the first 2 weeks is followed by weekly use for the next 2 weeks; then it can be used as needed. It is advised to **massage** it into the scalp and leave on for **2–3 min**. It can cause a burning sensation (and rarely, blistering) if left on for longer. Jewellery should be **removed** as this can be **discoloured** by selenium. The hair and scalp should be thoroughly rinsed after using selenium sulphide shampoo; otherwise, **discoloration** of blond, grey or dyed hair can result. Products containing selenium sulphide should not be used within 48 h of coloring or perming the hair.

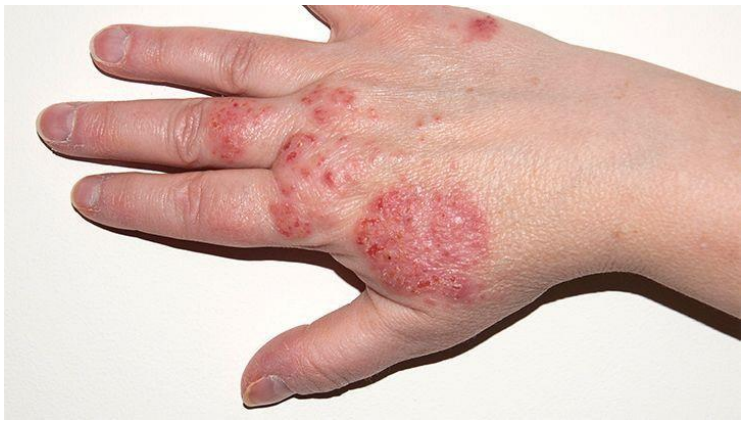
Eczema

The terms eczema and dermatitis are often used interchangeably to describe a range of skin conditions characterized by dryness, erythema, and itch of the skin, often with weeping and crusting.

Atopic eczema is a chronic, relapsing, itchy skin condition; it affects up to 20% of children, in many of whom it disappears or greatly improves with age such that 2–10% of adults are affected.

Note: Atopy refers to the genetic tendency to develop allergic diseases such as allergic rhinitis, asthma and atopic dermatitis (eczema).

The rash of eczema typically presents as dry flaky skin that may be inflamed and have small red spots. The skin may be cracked and weepy and sometimes becomes thickened. The rash is irritating and can be extremely itchy. If it isn't itchy, it is unlikely to be eczema.



What you need to know ?

☑ **Age:** The distribution of the rash of atopic eczema tends to vary with age.

☑ **Occupation/contact**

1) **Irritant contact dermatitis** is most commonly caused by prolonged exposure to water (wet work), alongside soaps or detergents, which remove the natural fatty protective barrier from the skin. Typical occupations include cleaning, hairdressing, food processing, fishing and metal engineering.
2) **Allergic contact dermatitis:** the contact dermatitis is caused by an allergic response to substances that include chromates (present in cement

and rust-preventive paint), nickel (present in buckles, clasps and costume jewellery and as plating on scissors), rubber and resins (two-part glues and the resin colophony in adhesive plasters), dyes, certain plants (e.g. primula), oxidizing and reducing agents (as used by hairdressers when perming hair) and medications (including topical corticosteroids, lanolin, neomycin and cetyl stearyl alcohol). Eye make-up and hair dyes.

☑ **History of hay fever/asthma:** There is often a family history (in about 80% of cases) of eczema, hay fever or asthma. The pharmacist can enquire about the family history of these conditions.

☑ **Aggravating factors:** Atopic eczema may be worse during the hay fever season and aggravated by house dust or animal dander. Emotional factors, stress and worry can sometimes exacerbate eczema. Hormonal changes in women are recognized aggravating factors or triggers. Premenstrual flares of atopic eczema occur in 30% of women, and pregnancy can adversely affect eczema in up to 50% of women. Factors that dry the skin such as soaps or detergents and cold wind can aggravate the condition. Certain clothing such as woolen material can irritate the skin. In a small minority of sufferers (<5%), cow's milk, eggs and food coloring (tartrazine) have been implicated. Antiseptic solutions applied directly to the skin or added to the bathwater can irritate the skin.

When to refer ?

- Evidence of infection (weeping, crusting, spreading)
- Severe condition: badly fissured/cracked skin, bleeding
- Failed medication
- No identifiable cause (unless previously diagnosed as eczema)
- No improvement after 1 week with topical corticosteroids

Management

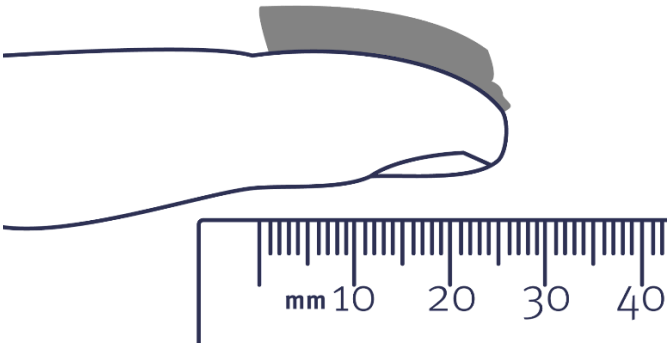
- If no improvement has been noted after 1 week, referral to the GP is advisable.

1) Emollients

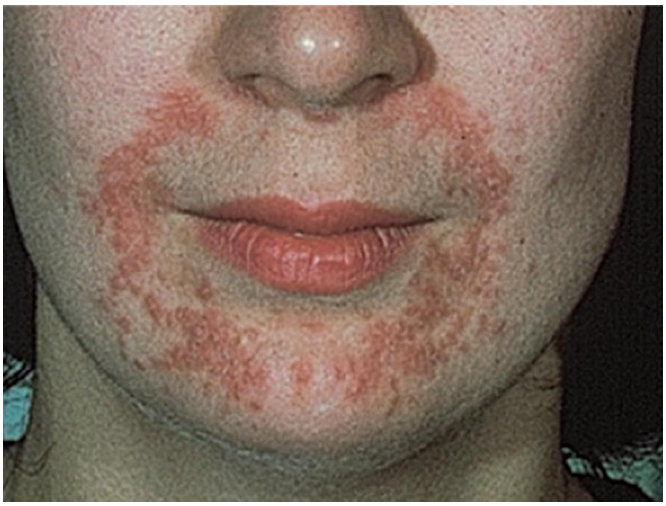
Emollients are the key to managing eczema and are medically inert creams and ointments that can be used to soothe the skin, reduce irritation, prevent the skin from drying, act as a protective layer and be used as a **soap substitute.** They may be applied directly to the skin or added to the bathwater.

2) Topical corticosteroids

- Hydrocortisone cream and ointment, alclometasone 0.05% and clobetasone
- 0.05% can be sold OTC for a limited range of indications.
- Their steroid potency is classed as mild (hydrocortisone) or moderate (alclometasone and clobetasone).
- Topical hydrocortisone OTC is licensed for the treatment of irritant and allergic dermatitis, insect bites and mild-to-moderate eczema.
- OTC hydrocortisone is contraindicated where the skin is infected (e.g. athlete's foot or cold sores), in acne and on the face and anogenital areas.
- Children aged over 10 years and adults can be treated, and any course must not be longer than 1 week.
- Topical alclometasone 0.05% and clobetasone 0.05% can be sold OTC for the short-term treatment and control of patches of eczema and dermatitis in people aged 12 years and over (used for<7 days).
- A fingertip unit is the amount of cream you can squeeze on to your fingertip from the tip to the first crease.



- OTC topical corticosteroids should not be used on the groin, breastfold, genitals, or between the toes because these are common sites of fungal infections; nor on the face as they can cause perioral dermatitis and acneiform pustules



3) Antipruritic

The itch of eczema is not histamine related, so the use of antihistamines is not indicated. Topical antihistamines should not be used as these can cause sensitization that will aggravate eczema. Calamine or crotamiton can be used in cream or lotion.

Mouth Ulcer

Mouth ulcers are common, with recurrent aphthous ulcers affecting as many as one in five of the population. They are classified as aphthous (minor or major) or herpetiform ulcers. Most cases (more than three-quarters) are minor aphthous ulcers, which are self-limiting; they are not associated with systemic diseases and their cause is unknown. Other types of ulcer may be due to a variety of causes including infection, trauma and drug allergy

What you need to know ?

Age

Patients with aphthous ulcers may describe a history of recurrent ulceration, which began in childhood and has continued ever since. Minor aphthous ulcers are more common in women and occur most often between the ages of 10 and 40 years.

Nature of the ulcers

Minor aphthous ulcers usually occur in crops of one to five. The lesions may be up to 5 mm in diameter and appear as a white or yellowish centre with an inflamed red outer edge. They are painful, clearly defined, round or ovoid, shallow ulcers confined to the mouth. Common sites are the tongue margin and inside the lips and cheeks. The ulcers tend to last from 5 to 14 days.

Duration

- Minor aphthous ulcers usually heal in less than 1 week; major aphthous ulcers take longer (10–30 days). Where herpetiform ulcers occur, fresh crops of ulcers tend to appear before the original crop has healed, which may lead patients to think that the ulceration is continuous.
- Any mouth ulcer that has persisted for longer than 3 weeks requires immediate referral to the dentist or doctor

Previous history

- There is often a family history of mouth ulcers (estimated to be present in one in three cases).
- Minor aphthous ulcers often recur, with the same characteristic features of size, numbers, appearance and duration before healing.
- In women, minor aphthous ulcers often precede the start of the menstrual period. The occurrence of ulcers may cease after pregnancy, suggesting hormonal involvement.
- Deficiency of iron, folate, zinc or vitamin B12 may be a contributory factor in aphthous ulcers and may also lead to glossitis (a condition where the tongue becomes sore, red and smooth) and angular stomatitis (where the corners of the mouth become sore, cracked and red).

Other symptoms

- The severe pain associated with major aphthous or herpetiform ulcers may mean that the patient finds it difficult to eat and, as a consequence, weight loss may occur.
- Mouth ulcers may be associated with inflammatory bowel disorders or with coeliac disease. Therefore, if persistent or recurrent diarrhea is present, referral is essential.

Medication

Drugs that have been reported to cause the problem include aspirin and other non-steroidal anti-inflammatory drugs (NSAIDs), cytotoxic drugs, nicorandil, beta-blockers and sulphasalazine (sulfasalazine).

When to refer

Duration of longer than 3 weeks, Associated weight loss, Ulcer suggestive of cancer, Involvement of other mucous membranes or eyes, Rash, Suspected adverse drug reaction, Diarrhea.

Management

Symptomatic treatment for aphthous ulcers can relieve pain and may reduce healing time. Active ingredients include antiseptics, corticosteroids and local anaesthetics.

a) Chlorhexidine gluconate mouthwash

There is some evidence that chlorhexidine mouthwash reduces duration and severity of ulceration. helps to prevent secondary bacterial infection, but it does not prevent recurrence. Regular use can stain teeth brown – an effect that is not usually permanent. Advising the patient to brush the teeth before using the mouthwash can reduce staining

b) **Hydrocortisone** acts locally on the ulcer to reduce inflammation and pain and is thought to shorten healing time (although evidence is weak). It is available as muco-adhesive tablets (2.5 mg) for use by adults and children over 12.

c) **Local analgesics : Benzydamine** mouthwash or spray and choline salicylate dental gel are short acting but can be useful in very painful ulcers. The mouthwash is used by rinsing 15 ml in the mouth three times a day.

d) **Local anaesthetics (e.g. lidocaine [lignocaine] and benzocaine):** Local anaesthetic gels are often requested by patients. Although they are effective in producing temporary pain relief, maintenance of gels and liquids in contact with the ulcer surface is difficult.