**A-Dandruff (pityriasis capitis)**

1-Dandruff is a **chronic relapsing condition of the scalp** which respond to treatment, but return when the treatment is stopped (1). **Increased cell turnover rate** (twice the rate of those without the condition) is responsible for dandruff but the reason why cell turnover increases is unknown (1,2). The yeast *Malassezia ovale* may play a role in the pathogenesis of dandruff (2).

2-Dandruff is **rare in young children**, but incidence increases rapidly with age, **peaking in the second decade of life** and **declining gradually thereafter** (3). Both sexes are affected equally (4).

**Patient Assessment With Dandruff:**

1-**Appearance and location:**
Appearance and location will help to distinguish dandruff from psoriasis and seborrheic dermatitis (1):
Seborrhoeic dermatitis results from accelerated epidermal proliferation and **sebaceous gland activity** (3).
Psoriasis is an inflammatory clinical condition with **plaques and relatively thick scales** (5).

Table 1: Appearance and location of dandruff, psoriasis and seborrheic dermatitis (1, 5)

<table>
<thead>
<tr>
<th></th>
<th>Dandruff</th>
<th>Seborrheic Dermatitis</th>
<th>Psoriasis</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Location</strong></td>
<td>Scalp</td>
<td>(areas where there is greatest sebaceous gland activity)</td>
<td>Can affect the Scalp, but knees, and elbows are commonly involved. The <strong>face is rarely affected</strong>.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Scalp, central part of the Face, eyebrows, eyelids, nasolabial folds, behind the ears, nape of neck, forehead and midchest.</td>
<td></td>
</tr>
<tr>
<td><strong>Appearance</strong></td>
<td>Thin, white or grayish scales.</td>
<td><strong>Yellowish greasy (oily) scales usually with some reddening.</strong></td>
<td><strong>Silvery –white scales associated with red patchy plaques and inflammation</strong></td>
</tr>
</tbody>
</table>

Therefore **involvement of the face can distinguish seborrheic dermatitis from psoriasis** (1).

2-**Severity** (1):
Dandruff is generally mild condition. However, sometimes itching can lead to scratching------break the skin----soreness and infection.
Therefore if the scalp is very sore with signs of bacterial involvement (weeping, crusting) -------referral.

3-**Previous history** (1):
Dandruff is a chronic relapsing condition and there is usually a seasonal variation in symptoms which generally improve in summer.

4-Medication\(^{(1)}\):

Failed medication--------referral.

**Treatment timescale** \(^{(1)}\)

1-2 weeks.

**Management:**

Note: All the treatment need to be left on the scalp for 3-5 minutes for full effect \(^{(1)}\)

1-Ketoconazole 2% shampoo (Ketonaz\(^{®}\)) \(^{(2)}\):

Which is used to treat acute flare-ups of dandruff or as a prophylaxis:

To treat acute cases: the hair should be washed thoroughly and then leaving the shampoo for 3-5 minutes before rinsing it off. This should be repeated every 3-days (i.e. twice weekly) for 2-4 weeks.

If used as a prophylaxis: the shampoo should be used once every one or two weeks.

**Note:** it can be used by all age groups including pregnant women.

2-Selenium sulfide 2.5% shampoo (Selsun\(^{®}\)):

Twice–weekly use (also leaving the shampoo for 3-5 minutes before rinsing it off) for the first 2 weeks followed by weekly use for the next 2 weeks. Then it can be used as needed \(^{(1,2)}\).

Note:

A-It can be used for patient above 5 years and preferably avoid in first trimester of pregnancy \(^{(2)}\).

It can be given to breastfeeding mother \(^{(3)}\).

B- The hair and scalp should be rinsed thoroughly after using it to prevent discoloration of the hair. And should not used within 48 hours after coloring or perming the hair \(^{(1)}\).

(Hair should not be dyed or permed for at least 2 days **before or after** using the shampoo \(^{(3)}\).)

C-Gold, silver, and other metallic jewels should be removed before application to prevent discoloration \(^{(2)}\).

3-Other products containing **Zinc pyrithione**, **salicylic acid**, **coal tar** products, ...........are also available ------------------see the BNF for details of use \(^{(5)}\).

**Practical Points** \(^{(1)}\)

1-Patient should understand that treatment will **not cure the disease permanently**. ----- therefore, less frequent use may be needed to prevent relapse.

2-The **scalp is needed to be treated** (not the hair) ------applied to the scalp and massage gently-----left for 3-5 minutes -----------rinse thoroughly.

3-It is generally agreed that frequent washing (at least three a week) is an important part of managing dandruff. And the patient can continue to use their normal non- medicated shampoo.

4-Gel and hairspray can still be used.
B-Seborrheic dermatitis
1-Seborrheic dermatitis (Seborrhea) is the result of accelerated epidermal proliferation and sebaceous gland activity on the scalp, face, and trunk (3).

2-Seborrheic dermatitis is common in infant and is called cradle cap (see below), relatively rare in children, and again the incidence peaking between 18-40 years (3). Seborrhoeic dermatitis is more common in adult men than women (2).

2-The condition may involve the area in and around the ears, eyebrows and eyelashes (see the above table). As in dandruff, growth of Malassezia ovale may be a causative (a theory supported by the fact that Ketoconazole improves the condition) (3).

Patient Assessment with Seborrheic Dermatitis:
The differentiation between Seborrhic dermatitis, dandruff, and psoriasis had been discussed in dandruff (see dandruff).

In addition the following points may help in diagnosis of Seborrheic dermatitis (2):
1-Other symptoms: eye and ear problems are associated with Seborrheic dermatitis.
2-Physical signs: if you run your fingers through the hair of someone with Seborrheic dermatitis little is felt. In psoriasis lumps are felt.

Management:
As for dandruff (2).
(The shampoo can be used in Seborrheic dermatitis. Whilst shampooing, the lather can be applied to other affected areas and left before rinsing (1)).

C-Cradle Cap:
It is a form of Seborrheic dermatitis of the scalp. It usually appears within the first 3 months of life and resolve spontaneously within a year (3). This form of Seborrheic dermatitis cause scaling and crusting and its appearance may be worrying to the parents, but it not usually serious (3).

Treatment:
1-By Applying olive oil to the scalp and leaving on overnight followed by using a non-medicated shampoo the next morning (6, 7).
Ketoconazole has been shown to be effective and safe for the treatment of cradle cap, but it should be reserved for serious cases and preferably used under medical supervision (3).

**D-Contact Dermatitis:**

1-Dermatitis and Eczema are terms used interchangeably to describe a range of skin conditions characterized by dryness, erythema, and itch of the skin, often with weeping and crusting (3).

2-However the term *dermatitis* is more correctly used when an external precipitating factor is present (contact dermatitis) (1). While the term Eczema is applied to conditions with an endogenous cause in atopic individuals (3). Contact dermatitis may be classified into (1, 2, 3, 5):

1-Irritant Contact dermatitis (ICD): which is the most common form. It caused by direct exposure to a substance that has a damaging effect to the skin. It can occur on first exposure to a strong irritant or repeated exposure to milder one. It is commonly associated with occupational use.

2-Allergic contact dermatitis (ACD): it caused by direct exposure to an allergen that produce a sensitization reaction.

<table>
<thead>
<tr>
<th>Causative agents</th>
<th>ICD</th>
<th>ACD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Detergents, solvents and oils, oxidizing and reducing agent, acids, alkali, car mechanics, hair perming products, …</td>
<td>Metals (chromate (present in cement), nickels (in jewels), rubber, dyes, certain plants…</td>
<td></td>
</tr>
<tr>
<td>Substance conc. at exposure</td>
<td>important</td>
<td>Less important</td>
</tr>
<tr>
<td>Mechanism of reaction</td>
<td>Direct tissue damage</td>
<td>Immunologic reaction.</td>
</tr>
</tbody>
</table>

**Patient Assessment With Contact Dermatitis**

1-Work related exposure (1):

To know whether or not contact dermatitis is the problem, pharmacist can ask about: Site of rash, details of job and hobbies, onset of rash and agents handheld, and improvement of rash when away from work or on holiday.

2-Duration (1):

Rash of more than 2 weeks duration -------referral.

3-Severity (1):

Severe contact dermatitis (badly cracked /fissured skin, bleeding), or sign of bacterial infection (weeping) -------referral.
**4-Medication**\(^{(1)}\):
1-Contact dermatitis may be caused or made worse by sensitization to topical medications (antibiotics, anesthetics, antiseptics, steroid…).
2-Failed medication------referral.

**Treatment timescale**\(^{(1)}\):
1 week.

**Management:**
1-All form of dermatitis can cause redness, drying of the skin, and irritation / puritus to varying degrees. Treatment should include three steps: **managing the itch, avoiding the irritant**\(^{(1)}\) ( i.e. non pharmacological advice e.g. : wearing gloves to protect the skin\(^{(3)}\) ), and **maintaining the skin integrity**\(^{(1)}\).

2-The main agents used are emollients and steroid . **Emollient used on regular basis to keep the condition under control and the flare-up is treated by short course of steroid** \(^{(1)}\).

**Emollients (e.g. white soft paraffin):**
They are used to soothe the skin, reduce irritation, prevent drying, and act as protective layer. It should be used **as often as needed to keep the skin hydrated and moist** (i.e. several daily applications are needed)\(^{(1)}\).

**Topical steroid:**
Two topical steroids are now OTC ( a mildly potent steroid : **hydrocortisone 1% Cream and ointment**, and moderately potent steroid : **clobetasone 0.05% cream only but not ointment** )\(^{(2)}\).

Steroid is consider the first line for the treatment of **acute flare-up** of the disease ------once the symptoms controlled ------the patient revert back to emollients therapy\(^{(2)}\).

However there are a number of **restriction** for the **OTC use** of topical steroids\(^{(2)}\):
1-The patient age must be over **10 years for hydrocortisone** and over **12 years for clobetasone**.

2-**Duration**: not more than **1 week**.

3-They **cannot be used** (as an **OTC**) on the anogenital region, broken or infected skin , and on the face (but they may be applied to the ear lobes)\(^{(3)}\),

**Notes:**
1-Their use during pregnancy is **OK**\(^{(2)}\)

2-Dose: They applied **twice daily** (one **fingertip** unit for an area **twice the flat adult hand** ).
3-After using a corticosteroid an emollient can be applied to the same area **30 minutes later** (2).

4-Unlike the more potent steroids, hydrocortisone does not affect protein synthesis in human skin and is therefore unlikely to cause side effects such as thinning of the skin and **telangiectasis** (dilatation of superficial blood vessels) (3). 

3-**Antipruritis and Local Anesthetics:**
Like **crotamiton** (Eurax®) or products contain **calamine** like (Drmocal®) can reduce the discomfort of itchy skin (1).

In addition **local anesthetics** may be used for the same purpose (5).

**References:**
2-Community Pharmacy. Symptoms, Diagnosis and Treatment. By Paul Rutter 2011.
5- Handbook of Non-prescription drugs. 2010.
6-Community Pharmacy. Symptoms, Diagnosis and Treatment. By Paul Rutter. 2004