

Patients with dandruff

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Introduction

Dandruff is a common, chronic skin condition which is characterised by flaking and itching of the skin on the scalp. The condition usually appears during puberty, and reaches a peak during early adulthood. It is not contagious, and can be effectively treated, but may return when treatment is stopped.

Understanding dandruff

The body continually sheds dead skin cells as new cells are being formed. Dandruff occurs when this process of skin renewal accelerates, and an excessive number of dead skin cells are shed from the scalp, which may be oily and itchy. These cells fall on the hair and shoulders where they are easily recognisable as the white, oily flakes of dandruff.

Causes

The causes of dandruff are associated with factors which accelerate the skin renewal process.

Dry skin

This is the most common cause of dandruff, with the flakes being smaller and less oily than other signs of dandruff. Patches of dry skin may occur on other parts of the body.

Seborrhoeic dermatitis

This condition occurs in areas of the body rich in oil glands, including the scalp. The skin on the scalp becomes oily and

irritated, and is marked with red patches which are covered with flaky white or yellow scales.

Fungal overgrowth

The yeast-like fungus, *Malassezia furfur* usually lives harmlessly on the skin, but if it grows out of control it can accelerate new skin production.

Psoriasis and eczema are skin conditions which may cause the skin to become dry, red and flaky. If these conditions occur on the scalp, they can appear as dandruff.

Other causative factors include:

- Stress
- A weakened immune system
- Certain neurological conditions such as Parkinson's disease or stroke
- Not washing one's hair, or washing it too often
- Sensitivity to hair care products
- Age: Dandruff usually begins in young adults, and lasts into middle age
- Male gender: Men tend to have dandruff more often than women
- Poor diet: People with a diet deficient in zinc, B vitamins and certain types of fats may be more likely to develop dandruff

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Management of dandruff

The aim of treatment is to reduce the level of *Malassezia furfur* on the scalp. If the dandruff is mild, daily shampooing with a gentle shampoo to reduce oiliness and skin cell build-up can be helpful. If this is not effective, over-the-counter anti-dandruff shampoos may prove successful, and the following are examples of these:

Ketoconazole

Ketoconazole is a broad-spectrum anti-fungal, and there is good evidence of its effectiveness in the treatment of dandruff. It is available as a 2% shampoo and should be used twice weekly for two to four weeks and then weekly or fortnightly as required to prevent recurrence.

Selenium sulphide

Selenium sulphide works by slowing production of skin cells, while also killing fungi such as the *Malassezia* fungus. The 2.5% shampoo should be used twice-weekly for the first two weeks, followed by once-weekly for two weeks. After that it should be used as needed. The hair should be thoroughly rinsed after use since discolouration of blonde, grey or dyed hair could result. Products containing selenium sulphide should not be used within forty eight hours of colouring or perming the hair, or applied to inflamed or broken skin.

Zinc pyrithione

Zinc pyrithione reduces the cell turnover rate and kills the *Malassezia furfur* fungus. It should be used twice a week for the first two weeks, and then once-weekly as necessary.

Coal tar

Shampoos containing coal tar may slow down the speed at which the skin cells on the scalp die and flake off. However, studies have shown that coal tar is the least effective of the anti-dandruff agents. The smell of coal tar remains unacceptable to some, and it can cause skin sensitisation and photosensitivity.

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Salicylic acid

Shampoos containing salicylic acid help eliminate scale. Studies show that they may leave the scalp dry and more flaky. Using a hair conditioner after shampooing is recommended when using this agent.

Note:

All treatments should be left on the scalp for three to five minutes for full effect, and be used strictly in accordance with the manufacturer's instructions.

Patients should understand that treatment will not cure their dandruff permanently, and that it would be sensible to continue using the treatment on a less frequent basis to prevent it from recurring.

Lifestyle measures which may help to reduce the risk of developing dandruff include:

- Shampooing often, at least three times a week
- Cutting back on hairstyling products
- Following a healthy diet
- Spending a little time outdoors in the sun

Refer to the doctor if:

Scaling is greasy and yellow, and does not respond to over-the-counter dandruff shampoos

Psoriasis is suspected or there are signs of infection

The scalp becomes red and swollen

In summary

Dandruff is a common condition which does not pose a threat to health. It can be effectively controlled with over-the-counter preparations, and by observing lifestyle measures. Medical help should be sought if there is no improvement after appropriate treatment.

Bibliography

1. Dandruff. Mayo Clinic [homepage on the Internet]. [Updated 2014 Jan 23; cited 2014 June 04]. Available from: <http://www.mayoclinic.org/diseases-conditions/dandruff/basics/symptoms/con-20023690>
2. Hicks R. Skin problems and treatments guide. Dandruff: Symptoms and treatment. BootsWebMD [homepage on the Internet] ©2015 WebMD, LLC. [Updated: 2015 Dec 01; cited 2016 June 04]. Available from: <http://www.webmd.boots.com/skin-problems-and-treatments/guide/dandruff-symptoms-treatment>
3. Dandruff. NHS Choices [homepage on the Internet]. [Updated 2014 Sept 04; cited 2016 June 04]. Available from: <http://www.nhs.uk/Conditions/Dandruff/Pages/Introduction.aspx>
4. Blenkinsopp A, Paxton P, Blenkinsopp J. Symptoms in the Pharmacy: a guide to the management of common illness. 6th ed. New York: Wiley Blackwell; 2009.
5. Monthly index of medical specialities. Fungicides. MIMS. 2014;54(4):238–240.
6. Monthly index of medical specialities. Psoriasis. MIMS. 2014;54(4):243–244.
7. Van Wyk H. Treatment options for dandruff. SAPA. Summer 201;5(15:4)28–29.