

# Essential Drugs

## Psoriasis

Psoriasis affects people of all ages in every country and is one of the most common of the chronic dermatoses in industrialized countries. It is estimated, overall, to affect about 2% of persons in the United States and northern Europe. Considerable local variations in its prevalence have been variously attributed to genetic, climatic, nutritional and ecological factors. A wide range of biological events may trigger its expression, including streptococcal or viral infection, an emotional crisis or pregnancy. Other cases appear to be related to the administration of specific drugs including lithium, chloroquine and beta-adrenoreceptor antagonists.

**Psoriasis vulgaris**, the most common form of the disease, is characterized by erythematous, scaly plaques of varying size. Typically, these are scattered over the trunk, the extensor surface of the limbs and the scalp. Pitting, thickening, and yellowish coloration of the nails are frequent. Acute inflammatory exacerbations characterized by a severe febrile reaction and pustule formation may be a consequence of over-treatment. About 5–10% of patients develop a destructive peripheral inflammatory arthritis of the hands and feet which is sometimes associated with ankylosing spondylitis. Psoriasiform lesions, often associated with severe forms of seborrheic dermatitis and Reiter's syndrome, are often seen in patients with AIDS.

**Erythrodermic psoriasis**, or fine, diffuse desquamative scaling over the entire body surface, sometimes develops when lesions are widespread.

**Guttate psoriasis**, occurs mainly in children. It is often triggered by a streptococcal infection, but it also sometimes develops during an acute exacerbation of chronic psoriasis vulgaris. It is characterized by the sudden widespread appearance of relatively small psoriasiform lesions. The condition sometimes resolves spontaneously, but may ultimately transform into psoriasis vulgaris.

### Management

Many different approaches to treatment are used. Each has advantages and shortcomings and none reliably assures remission from relapse.

### Topical applications

Localized psoriasis vulgaris can frequently be cleared, sometimes for many months, by daily applications of dithranol cream for 2 to 4 weeks. A low strength (0.1%) cream should be applied initially. Higher strengths (up to as much as 1%) may be used subsequently provided that they do not produce irritation or burning. A "short contact" method in which each application is rinsed off within 30 minutes causes little, if any, irritation or staining of normal skin. This is particularly useful for outpatient management. Dithranol should be used only under the direction of a physician trained in its use. There is a risk of severe conjunctivitis if dithranol accidentally enters the eye.

Crude coal tar is also effective in the treatment of psoriasis. The odour, staining and irritant properties are reduced when refined products are used in cream-based vehicles. Some preparations also contain salicylic acid as a keratolytic. Good results are often obtained when repeated applications or baths are combined with ultraviolet irradiation or sun exposure.

Emollients containing low concentrations of salicylic acid (2–6%) are a useful adjunct to treatment, particularly where there is thick scaling.

Topical corticosteroids are widely used in mild or moderate psoriasis. However, when extensive areas of the body surface are treated, such as in erythrodermic psoriasis, they can induce systemic adrenal suppression. Rebound is likely to occur after withdrawal, and this may result in a more unstable form of the disease. Systemic corticosteroids should not be used because severe exacerbations frequently occur when they are withdrawn.

Recently, it has been shown that calcipotriol, a vitamin D<sub>3</sub> analogue, which promotes the differentiation of epidermal keratinocytes, offers an effective and acceptable form of topical therapy, but the preparation is very expensive.

### Systemic treatment

Several options exist for the systemic treatment of patients with psoriasis vulgaris unresponsive to

topical therapy. Each, however, is associated with hazards. These forms of therapy which involve the use of antimetabolites, immuno-suppressants, ciclosporin, or oral retinoids are not discussed here. They should be administered only by specialists and refractory cases should be treated by dermatologists in secondary or tertiary level care facilities. It is prudent, when treating patients who require extended systemic treatment, to change the regimen from time to time to reduce the risk of cumulative toxicity. The risk of serious adverse effects, the need for close patient monitoring, and the high cost of these treatment regimens are factors that determine the need for specialist management.

Streptococcal-induced guttate psoriasis requires oral antibiotic, anti-streptococcal therapy.

## DITHRANOL

*ointment: 0.1–2%*

Dithranol slows epidermal cell division and inhibits excessive proliferation and keratinization in patients with psoriasis. It is not significantly absorbed through the skin.

### Uses

Topical management of moderately severe psoriasis.

### Dosage and administration

Dithranol should be applied only under the supervision of a specialist dermatologist. Treatment should be started with the 0.1% ointment. After one week, the concentration may be increased to 0.25% and subsequently doubled, if necessary, at weekly intervals to a maximum strength of 2%. When dithranol is used for "short contact" therapy, the ointment should be scrupulously rinsed off within 30 minutes.

### Contraindications

Dithranol should never be used on the face, on acute eruptions or acutely inflamed areas.

### Precautions

If the initial treatment produces severe soreness, or if the lesions spread, the frequency of application should be reduced and, in severe cases, discontinued.

Patients should be warned that staining of the skin and hair may occur and that some fabrics may be permanently stained.

### Use in pregnancy

Safe use in pregnancy has not been established but no adverse effects have been reported.

### Adverse effects

Contact with the eyes may cause severe conjunctivitis. Skin irritation is common.

Sunlight may exacerbate inflammatory reactions and provoke photosensitivity reactions.

Excessive erythema may occur on adjacent normal skin.

### Storage

Dithranol ointment should be stored in tightly closed containers protected from light.

## SALICYLIC ACID

*ointment or paste: 2–6%*

A keratolytic agent that is readily absorbed through intact skin and is excreted slowly in the urine.

### Uses

Topical treatment of hyperkeratotic conditions.

### Dosage and administration

Initially 2% ointment is applied daily. The concentration is progressively increased to a maximum of 6%, and applications are continued until remission is obtained.

### Contraindications and precautions

The ointment should not be applied to broken or inflamed skin.

Young children require specialist care.

### Adverse effects

Allergic contact dermatitis has rarely been reported. Systemic salicylism has occurred when large areas are treated, particularly in children.

### Storage

The preparation should be stored in well-closed containers.

## TAR PRODUCTS

*solution*

*ointment*

The concentration depends upon the choice of preparation: coal tar solution 5–10%; crude coal tar 1%.

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Tar suppresses epidermal cell DNA synthesis and mitotic activity and restores proliferative activity to normal.

A variety of tars, most commonly coal tar, is used to treat chronic skin disease.

**Uses**

Treatment of widespread, erythrodermic and guttate psoriasis either alone or in combination with ultraviolet light.

**Dosage and Administration**

*Tar baths:* 100 ml of solution should be thoroughly mixed with bath water and the patient should soak for 10-20 minutes. This may be repeated daily.

At least 24 hours should elapse before phototherapy is started at which time the tar preparation should be scrupulously washed from the skin.

**Contraindications**

Known hypersensitivity.  
Tar preparations should not be applied to inflamed, broken or infected skin.

**Precautions**

Exposure to direct sunlight should be avoided for at least 24 hours after application because of the risk of photosensitivity reactions.

Although coal tar is a potential carcinogen, there is no evidence that in the doses used therapeutically, coal tar increases the risk of skin cancer.

**Use in pregnancy**

Safe use in pregnancy has not been demonstrated. Treatment should be deferred until after delivery whenever possible.

**Adverse effects**

Tar preparations are irritant and may rarely cause allergic reactions, including photosensitivity.

They frequently stain the skin and hair and, for this reason, they are not well accepted by patients.

**Storage**

Tar preparations should be stored in tightly closed containers, and protected from light. They should not be frozen.