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Community Dermatology

EDITORIAL: PUBLIC HEALTH AND SKIN DISEASE

R J Hay DM FRCP
International Foundation of Dermatology
Professor of Dermatology
Faculty of Medicine and Health Sciences
Queen's University, Belfast, UK

Most of the work of dermatologists is concerned with the treatment of individual patients to the highest standards achievable with the facilities and skills available. However, it is seldom possible to apply this to large populations in most parts of the developing world, particularly where the lack of resources and sparse populations make the adoption of this model of health care unattainable. In assessing the needs for these groups a different approach is necessary.

Public Health and Skin Disease

Dermatological public health has seldom been prioritised as a key objective in the overall management of skin diseases, although it has a strong record which is often unrecognised. For instance, in the early part of the twentieth century many countries had policies for the control of scalp ringworm which ranged from school exclusion orders to special treatment facilities. It resulted in partial control but, in the absence of an effective remedy, elimination remained a distant goal. With the discovery of the drug, griseofulvin, the potential to provide a wider programme based on the treatment of communities became possible and, in some areas, there was a concerted effort to eliminate tinea capitis using control teams.

Yaws and leprosy are further examples of diseases where control measures, backed by international collaboration, have focused on elimination of infection by early identification of cases and contacts and mass drug treatment.

Skin Disease and the Western World

In recent years, the focus of public health in 'western world' dermatology has concentrated on the control of the modern epidemic of a non-infectious

Afghan refugee child

At a Health Centre, Afgooye, Somalia
Photos: Murray McGavin

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condition – skin cancer. The relationship between skin cancer and sun exposure is well established although individual susceptibility and sun avoidance practices are all elements of the complex equation in the development of skin cancer. School and general public education, the identification of risk and the development of early recognition programmes have all been brought forward in many countries – with promising results in reducing the incidence of skin cancer and improving long term survival. There is, therefore, a well established basis for the development of a public health approach to skin disease.

Developing Countries and Skin Disease

In the developing world, the majority of skin conditions are common infective diseases for which there is usually a simple remedy. The problems that arise in the effective management of these cases are the result of a combination of poor disease recognition, generally because there are insufficient individuals with appropriate skills at primary care level, and poor treatment regimens, due to unavailability or lack of knowledge. Treatment regimens are also often inadequately explained. This results in much misdiagnosis and, in consequence, wasted funding. Large amounts of scarce resources available to health centres, dependant on inadequate state or personal funds, are wasted on treating skin disease badly.

Training and Primary Care

A key strategic target has been to redress this balance by providing highly focused training for primary care staff, either through the development of diagnostic and therapeutic algorithms or through focused training and practical instruction. An example of the former is the development of a training programme for doctors and nurses at primary care level in Mali where the four commonest diseases, pyoderma, tinea capitis, scabies and eczema are targeted. A second example is the work of Estrada and colleagues in Mexico where the focus of education is the primary care team – doctors, nurses and health promoters – through formal focused training sessions using patient-based education. A third approach has been to teach future health care teachers and leaders. The Regional Dermatology Training Centre in Moshi, Tanzania, was set up to train the future dermatological leaders in this field amongst medical officers and, latterly, through a regional dermatology residency programme, dermatologists. The key to the successful implementation of all these initiatives has been to show, firstly, that the education provided has led to an improvement in learning and, secondly, that it has had an impact on local disease levels.

Good Management and Specialist Centres

The second part of a public health delivery approach is to ensure that those with skin lesions that signal the development of a more severe underlying problem are recognised and managed appropriately, if necessary by referral to a specialist centre. The skin is the mirror of many other events affecting the human body. A good example here is HIV/AIDS where the early recognition of skin or mucosal signs may provide the earliest clues for investigation, counselling and treatment. The increasing availability of anti-retrovirals in parts of the developing world, where previously these had been unavailable, makes this approach both justifiable and practicable. Similarly, leprosy and onchocerciasis are both examples of important diseases where skin signs allow early recognition and treatment.

Public Health, Education and Communities

It is possible to develop programmes, based on practical education, which can reduce the prevalence of certain diseases and bring prompt, effective treatment at primary care level. It remains less clear whether it will be possible to eliminate these conditions from particular areas. In almost all cases these programmes are best developed through adopting an approach which targets communities. Such public health initiatives have much to contribute to dermatology.

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Treatment of Leprosy

Antoon J M Baar
MD DiplTM&H
Consultant Dermatovenereologist
Regional Dermatology Training Centre (RDTC), Moshi, Tanzania
Correspondence to: De Zwette 54
9257RR Noordbergum
The Netherlands
E-mail: baarderm@knmg.nl

Ben Naafs MD PhD DiplTM&H
Consultant Dermatovenereologist
Regional Dermatology Training Centre (RDTC), Moshi, Tanzania
Visiting Professor, Instituto Lauro de Souza Lima (ILSL), Bauru, SP Brazil
Senior Lecturer, Ijsselmeerziekenhuizen Emmeloord/Lelystad and
Leiden University Medical Centre (LUMC), Leiden, The Netherlands
Gracht 15 8485KN Munnekeburen
The Netherlands
E-mail: benaafs@dds.nl

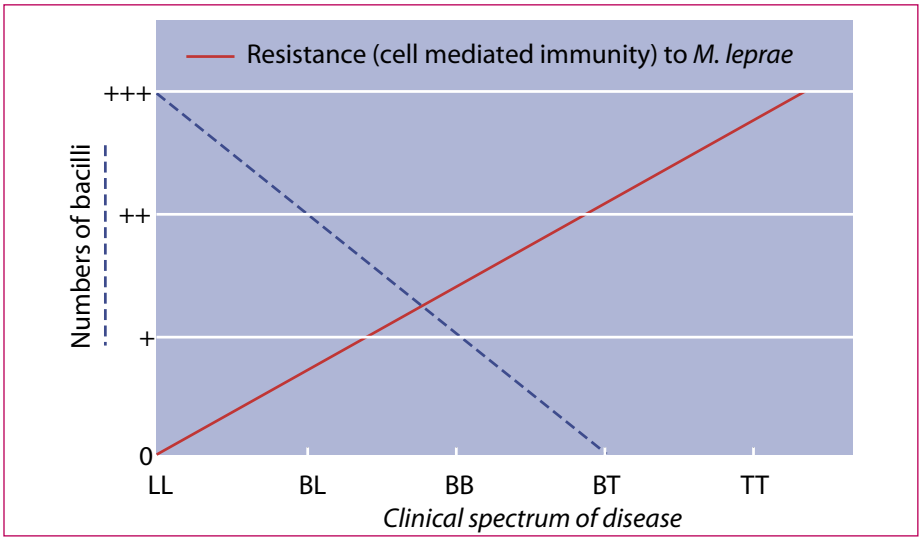

Fig. 1: The leprosy spectrum of disease

Spectrum of clinical disease in leprosy: LL = lepromatous leprosy; BL = borderline lepromatous leprosy; BB = borderline leprosy; BT = borderline tuberculoid leprosy; TT = tuberculoid leprosy

Treatment of Leprosy has Two Major Goals:

1. Treatment of the individual patient to prevent him or her from becoming disabled and a social outcast.
2. To lower the incidence of the disease in the hope of eradicating leprosy as a communicable disease.

From an epidemiological point of view it is important to treat the most infectious patients (BL and LL patients) with a form of treatment which renders them non-infectious as soon as possible (Figure 1). The larger group of TT – BL patients should also be treated as soon as possible in order to prevent them from becoming disabled due to serious nerve damage (Figure 2). In practice, this means that early diagnosis is very important for the treatment of both the individual patient and for the community as a whole.[1]

Fig. 2: Lagophthalmos after bilateral facial nerve damage

Photo: John DC Anderson

Treatment Involves:

1. Antibacterial therapy.
2. Anti-inflammatory treatment of leprosy reactions.
3. Treatment and rehabilitation of disability due to nerve damage.
4. Prevention of spread of the disease in the community.

1. Antibacterial Therapy

Monotherapy (treatment with a single drug) is no longer recommended because of widespread drug resistance. In 1982, the World Health Organization (WHO) recommended multi-drug therapy (MDT) for all patients.[2] Treatment regimens are based on a simplified classification of leprosy (see box below).

The tablets are provided to the patients free of charge and come in blister packs (Figure 3). Each pack contains enough tablets for 4 weeks. The

tablets for the 1st day of each period are swallowed under supervision in the clinic and patients have to report every 4 weeks. At each visit they are examined and told to attend in another 4 weeks. They are warned to attend immediately if there is any problem. If the skin signs are improving and the nerves are not enlarged and/or tender the patient gets a new blister pack.

Patients who miss an appointment have to extend their treatment up to a maximum of 9 months for PB and 36 months for MB leprosy. Patients who have not used all their tablets in that period will need to repeat the whole course of treatment.

2. Anti-inflammatory Treatment of Leprosy Reactions

There are two types of reactions:

- *Type-1 or reversal reactions* in TT and borderline leprosy. In these patients, acute inflammation develops. Affected nerves become tender or painful, skin lesions become swollen and red. There may be rapid loss of nerve function, if not treated. Some type-1 reactions occur after treatment is finished, so the treatment of leprosy patients does not end with the last blister pack of MDT!
- *Type-2 leprosy reaction or erythema nodosum leprosum (ENL)* is an immune-complex reaction in patients with LL leprosy. It is a generalised inflammatory process not only of the skin and peripheral nerves but of many organs of the body. The frequency of ENL has been halved since the introduction of MDT, but again some patients are developing ENL after finishing their treatment.

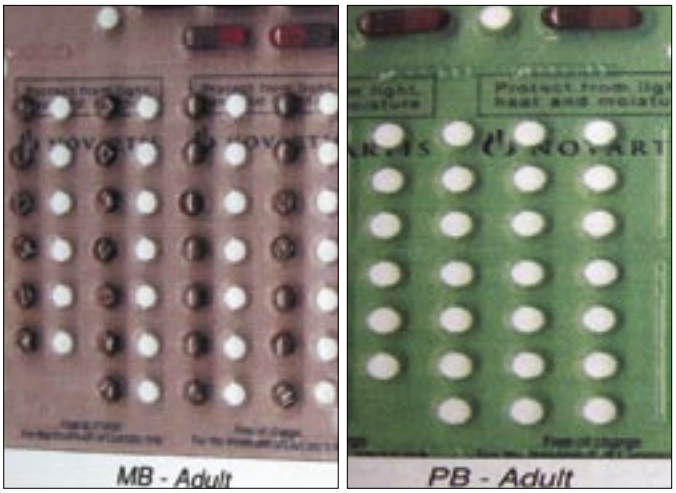

Fig. 3: Blister packs provided by the government for the treatment of leprosy

Treatment of type -1 reactions

Start treatment immediately with prednisolone 30–40mg/day (Figure 4). Once the reaction is under control continue with a reduced dose of prednisolone as follows:

- Patients with BT leprosy: 3–6 months
- Patients with BB leprosy: 6–9 months
- Patients with BL leprosy: 6 months–2 years.

It is a mistake to stop treatment too soon.

When a painful, very enlarged nerve does not respond to prednisolone, surgical decompression of the involved nerve should be done as soon as possible. Always check these patients for signs of other infections and infestations, especially for TB and intestinal worms (especially *Strongyloides*), and treat these diseases if found.

Treatment of type-2 reactions (ENL)

ENL is an episodic, self-limiting disease but it is a generalised disease with many organs of the body involved. Treatment depends on the severity of the symptoms:

- Mild forms of ENL with painful skin nodules only will usually subside within 2–4 weeks. Treat with analgesics (aspirin 600mg qds, or a NSAID, e.g., diclofenac 50mg tds).
- For moderate forms of ENL, where patients have more extensive painful skin nodules +/- ulceration, together with fever, leucocytosis and general malaise but no involvement of joints, nerves, eyes or testes, treat

WHO Classification of Leprosy

Multibacillary (MB) Leprosy

- patients with > 5 skin lesions
- positive skin smear

Paucibacillary (PB) Leprosy

- patients with 1–5 skin lesions
- negative skin smear

(1) MDT for multibacillary leprosy

One blister pack for 4 weeks

Day 1

- Rifampicin 600mg (2 capsules) }
- Clofazimine 300mg (3 capsules) } given under supervision
- Dapsone 100mg (1 tablet) }

Days 2–28

- Clofazimine 50mg (1 small capsule)
- Dapsone 100mg (1 tablet)

Duration of treatment 24 months = 24 blister packs

(2) MDT for paucibacillary leprosy

Day 1

- Rifampicin 600mg (2 capsules) } given under supervision
- Dapsone 100mg (1 tablet) }

Days 2–28

- Dapsone 100mg (1 tablet)

Duration of treatment 6 months = 6 blister packs

with analgesics (as above) and add stibophen (Fouadin) 2–3 ml daily for 3 days.

- In the more severe forms of ENL with signs of arthritis and/or nerve involvement give analgesics (as above) plus chloroquine 300 mg/day.
- In very severe ENL, patients have a severe generalised disease with orchitis, iridocyclitis, neuritis and arthritis. Start treatment with high doses of prednisolone (120 mg daily) for a short period, diminishing to zero within 2–3 weeks. Avoid maintenance doses of steroids. If there is a flare-up during the period of drug reduction, double the dose of prednisolone being used at that time and then try again to reduce the dose quickly. When the episodes of severe ENL are frequent and short courses of high dose prednisolone are not stopping it, add thalidomide as a maintenance drug between prednisolone 'pulses'. Start with 300mg at night. When the reaction has subsided continue with 150 mg nocte. *Remember that thalidomide is teratogenic, so do not give it to pregnant women.* Patients with severe, frequently relapsing forms of ENL should be referred to an experienced leprologist.

3. Treatment and Rehabilitation of Disabilities

The curse of leprosy has always been the severe disabilities of hands, feet, face and eyes due to peripheral neuropathy and/or iridocyclitis. Such disabilities lead to social isolation and poverty. Prevention of disability depends on early diagnosis and treatment, especially the early treatment of leprosy reactions.

Unfortunately, there are still patients who come late for treatment and who already have irreparable nerve damage when they are first seen. With health education, timely wound care, special shoes and various aids to help replace the loss of function in the hands and feet, further damage can be prevented. Orthopaedic and plastic surgery is sometimes needed to correct anatomical and functional abnormalities. Correction of lagophthalmos, corneal transplantation and other specialised ophthalmic procedures can restore vision in some patients.

4. Prevention of Spread in the Community

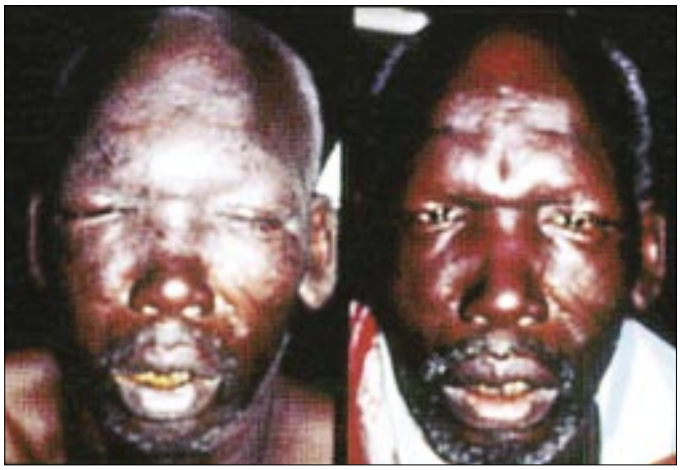

Fig. 4: Type 1 reversal reaction (left) and the same patient after 48 hours of prednisolone treatment (right)

Photos: Margreet Hogeweg

The goal of health programmes is eradication of leprosy worldwide. Although the prevalence (total number of patients in a population) of leprosy has decreased dramatically in the last 25 years, the incidence (number of new patients/year in a population) remains the same. This means that leprosy, although treated at an early stage (and the patients cured), remains as infectious as before. For a realistic strategy to eradicate leprosy the following facts have to be kept in mind:

- In most countries with a high incidence of leprosy, the socio-economic situation is poor and so funds and a good infrastructure for eradication campaigns are low
- Case finding of early leprosy cases is difficult in integrated primary health care schemes
- The incubation period of leprosy is very long – up to 15 years
- Vaccination with an antigen specific for *M. leprae* is not yet available
- The influence of the HIV-epidemic on the transmission of *M. leprae* is not known but there are indications that HIV-patients, who also have asymptomatic multibacillary leprosy, are a serious source of infection to the population at large
- Care of disabled patients with burnt-out leprosy who no longer need specific anti-leprosy drugs, remains important. Otherwise the general public will not believe that leprosy, is curable.

With these facts in mind, the following are possible ways of dealing with leprosy as a public health problem:

- MDT treatment for all leprosy patients as early as possible
- Health education and BCG vaccination to the general public (see box)
- Rapid access to health facilities with expert staff for patients with leprosy reactions or other complications of the disease
- Good aftercare for leprosy patients with disabilities
- Research into the influence of the HIV-epidemic on the spread of leprosy.

BCG Vaccination in Leprosy

- Gives better protection against *M. leprae* than against *M. tuberculosis*
- Protection against *M. leprae* varies from 80% in Uganda to < 30% in Asia
- Estimated time to lower the incidence of leprosy by 50% is:

  – 8 years with BCG vaccination
  – 43 years without BCG vaccination.

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How I Manage Eczema in the Community

Najeeb Ahmad Safdar
MBBS MRCP(UK)
Consultant Dermatologist
Department of Dermatology
Seremban Hospital, Jalan Rasah
70300 Seremban, Negeri Sembilan,
Malaysia
Honorary Senior Lecturer, International
Medical University, Seremban, Malaysia

Jane Sterling FRCP PhD
Honorary Consultant
Dermatologist
Addenbrooke's Hospital
Cambridge CB2 2QQ
UK

Eczema is a group of skin disorders characterized clinically by redness, itching, oozing, scaling and thickening and occasionally blistering of the skin. It is probably the most common skin condition seen in the community. The terms 'eczema' and 'dermatitis' are generally used interchangeably to describe the same condition.

The clinical picture depends on the stage of the eczema which can be divided into:

Acute Eczema

Characterised by intensely itchy and occasionally painful erythema, oedema, papules, vesicles, occasionally bullae, exudation (weeping) and crusting.

Chronic Eczema

Characterised by dry, scaly, thickened or lichenified lesions with occasional fissures, which may be very painful, and pigmentary changes.

Subacute Eczema

Features of both acute and chronic eczema. Frequently redness, minimal oedema, dried-up vesicles and crusting.

There are many different types of eczema (Table1), all of which can vary from mild to severe. They can usually be classified into Exogenous/Contact Eczema (due to external factors) and Endogenous Eczema (due to internal or constitutional factors).

Table 1: Types of Eczema

Endogenous	Exogenous
1. Atopic eczema	1. Irritant contact dermatitis
2. Seborrhoeic eczema	• Acute irritant
3. Discoid eczema	• Cumulative insult
4. Juvenile plantar dermatosis	
5. Pompholyx / dyshidrotic eczema	2. Allergic contact dermatitis
6. Stasis eczema	
7. Lichen simplex	
8. Asteatotic eczema	

Management

A management strategy (Table 2) is essential. It is often helpful to consider treatment in two phases – management of the acute disease and then longer-term measures to maintain control and minimise the risk of 'flares'. The first important step is to diagnose correctly the type of eczema, as this can influence the management.

Diagnosis

The diagnosis of the different types of eczema depends upon the history, characteristic clinical features occurring at typical distribution sites of the body and the age of onset. The severity of eczema depends upon the extent of body surface area involvement and intensity of redness, swelling, oozing, dryness, excoriation and lichenification.

Treatment

Most eczema patients can be managed in the community. Care and treatment includes:

- General measures for all types of eczema targeted towards control of skin inflammation, dryness, oozing, itchiness and occasionally secondary infection
- Specific treatment for particular states or types of eczema
- Provision of education and counselling.

The aims of general treatment are:

- Cleansing and soothing of the skin plus improvement in skin barrier function by the use of ***emollients***
- Avoidance of any precipitating or exacerbating factors
- Reduction in skin inflammation by the use of ***topical steroids***. Occasionally may be necessary for more persistent, severe and uncontrolled skin inflammation
- Reduction of skin damage caused by scratching by means of itch reduction using ***antihistamines***
- If skin is oozing and exudative, ***astringent preparations*** can reduce blistering and weeping from skin
- Eradication by ***anti-bacterial, anti-viral or anti-fungal therapy*** of secondary skin infection, if present
- ***Counselling and education*** to allow patients to maintain their own longer term treatment and to recognise acute flares and their need for altered therapy.

Emollients have a pivotal role and should be used liberally in all patients. Skin affected by eczema is frequently dry and as inflammation settles, the skin usually peels. These effects reduce the barrier function of the skin and so increase the irritant effects of water and detergents, leading to further inflammation and itch. This cycle can be broken by regular use of emollients.

Aqueous cream is the most commonly used. It is cheap and suits most people. Patients are advised to use the cream in two ways:

a) As a soap substitute, i.e., applied directly onto wet skin, massaged gently on the affected skin and then washed off with water, and
b) Gently rubbed into skin as a moisturiser 4–5 times a day.

Table 2: Management Strategy

- Diagnosis
- Exclude/avoid contact irritants/ sensitizers
- Emollients – soap substitution. Moisturise frequently and use emollient bath oils
- Anti-inflammatory agents – topical steroids
- Antihistamines to relieve itch
- Treatment of secondary infection
- Education – reassurance, explanation, prognosis
- Psychosocial support

Emulsifying ointment can also be used but is more difficult to apply as it is firmer and more greasy. It can be mixed into twice its volume of very hot water to create a milky emulsion to be added into bath water.

There are many other commercially available emollients which are usually more expensive and not necessarily of greater benefit. However, some cannot tolerate aqueous cream or emulsifying ointment. Children in particular often find that heavier, greasier products make their skin feel more itchy and young children may complain of stinging after application of aqueous cream. Some patients may develop a contact allergy to a particular preservative used in a cream. In these situations other emollients should be tried until one is found that can be tolerated.

Topical steroids are the mainstay in the treatment of inflammation in eczema but many patients and parents are concerned about their potential side effects. In general, use the lowest strength topical steroid that will keep the eczema under control (Table 3). Another approach is to use potent topical steroids for short duration (1–2 weeks) to bring eczema under control quickly, then reduce the potency. Potent topical steroids should not be used in children without careful supervision and the same applies to adults for large areas, face and flexures. The very potent topical steroids should only be used in adults for rare localised severe/resistant cases and on palmar/ plantar skin, sometimes with occlusion. Most topical steroids should be applied not more than twice a day. They may be combined with topical antibiotics to control bacterial secondary infection.

Table 3: Strengths of Topical Steroids

Potency	Example
Mild	1% hydrocortisone (e.g., Efcortelan)
Moderate	0.05% clobetasone butyrate (e.g., Eumovate) 1 in 4 dilutions of potent topical steroids
Potent	0.1% betamethasone valerate (e.g., Betnovate) 0.1% hydrocortisone butyrate (e.g., Locoid) 0.025% beclometasone dipropionate (e.g., Propaderm) 0.05% betamethasone dipropionate (e.g., Diprosone)
Very potent	0.05% clobetasol propionate (e.g., Dermovate) 0.3% diflucortolone valerate (e.g., Nerisone Forte)

Amount to be used:

The amount of very potent steroid used should be less than 50g per week for an adult.

A rough guide to estimate the amount of topical application required is:

- 1% of total body surface area requires 0.25g each application
- Use rule of 9 to estimate amount required for large areas
- The fingertip unit (F.T.U.) is a convenient way of indicating to patients how much of a topical steroid should be applied to skin at any one site. One finger tip unit is the amount of steroid expressed from the tube to cover the length of the flexor aspect of the terminal phalanx of the index finger (1 F.T.U.= 0.5g = to cover 1 hand/foot/face)

Choice of formulations:

i. Lotions for exudative lesions.
ii. Creams for dry lesions.
iii. Ointments for very dry lesions.
iv. Lotion or gel for scalp.

Astringents are used to dry up lesions during vesicular or exudative stages. Examples are potassium permanganate, 1:10,000 dilution (deep pink in colour) or normal saline. The affected parts are soaked in the selected solution for 10 to 15 minutes each time, once or twice a day, depending on the severity and response. The solutions can also be applied as cool compresses for a similar length of time.

Oral antihistamines can relieve itch. Most patients find some symptomatic relief but the main benefit may be largely due to their central sedative effect. The sedative antihistamines are therefore helpful in reducing pruritus and in allowing everyone in the family to sleep.

Examples of sedative antihistamines are hydroxyzine, alimemazine (trimeprazine), promethazine and chlorpheniramine maleate.

Secondary bacterial infection is common and may cause acute exacerbations of eczema. *Staphylococcus aureus* is almost always responsible. Swabs for bacterial culture and sensitivity should be sent. Topical antibiotics should be used in small areas of localised infection, e.g., Fucidin or mupirocin, but more severe or widespread infection requires a concomitant systemic antibiotic, eg., cloxacillin, erythromycin and cephalosporins.

Counselling and education is essential in any disease especially in chronic conditions such as eczema. Patients and parents are often anxious when the diagnosis is made and need to be reassured that the condition is not contagious. Careful explanation of the disease, the main causes of exacerbation and its management, especially with regard to the correct use of emollients and topical steroids is required. Patients and parents will not understand how to use their treatments until they are shown. Such demonstrations are central to teaching them how to care for their skin disease.

Systemic therapy is needed only rarely for a very small proportion of people with eczema. Oral corticosteroids or injections should be avoided, if possible, but occasionally may be prescribed for short periods (oral prednisolone, 0.5mg/kg/ day for 1–2 weeks) and intermittently (triamcinolone injections 0.5–1mg/kg) when other measures have failed or to treat a severe, acute flare.

Specific Treatments for Various Types of Eczema

Atopic eczema (Figure 1) can be exacerbated by various air-borne allergens such as house-dust mite, animal fur and pollens. If possible, contact with known allergens should be minimised. Regular, life-long use of emollients will reduce exacerbations and pruritus. Cool clothing and bedding will reduce skin irritation and hence reduce scratching.

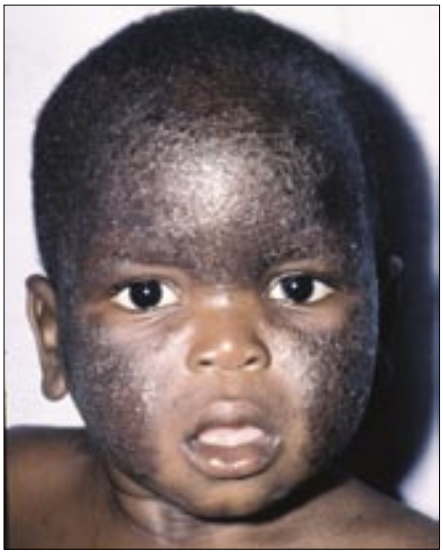

Fig. 1: Atopic eczema; most commonly starts in infancy on the face and scalp

Seborrhoeic eczema (Figure 2) occurs on the greasy areas of the face and upper body. Reduction in the skin yeasts by application of an imidazole cream, combined with a mild topical steroid will usually keep this condition under control.

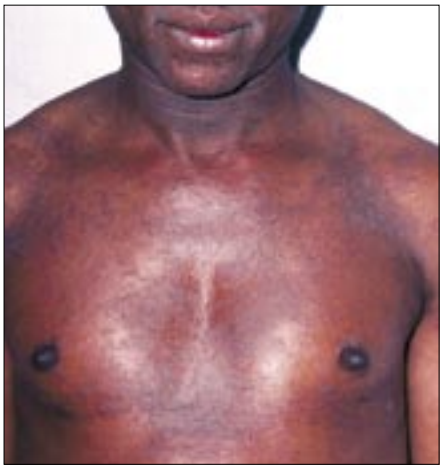

Fig. 2: Seborrhoeic eczema

Discoid eczema (Figure 3) frequently does not respond to mild or moderate strength topical steroids and may often need short periods of treatment with a potent or very potent steroid.

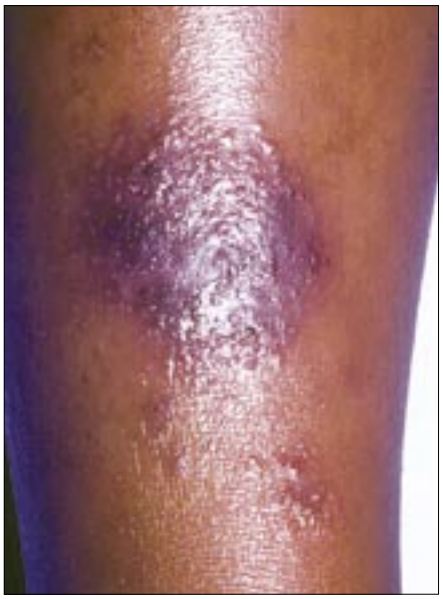

Fig. 3: Discoid eczema

Juvenile plantar dermatosis affects the sole, especially the forefoot, usually in children and young teenagers. It may be exacerbated by occlusive footware and often clears after puberty. Regular use of emollients is essential to control the dryness and fissuring of the skin.

Pompholyx / dyshidrotic eczema (Figure 4) affects the palms and / or soles, producing itchy and uncomfortable blisters. Astringent preparations and potent topical steroids are often necessary.

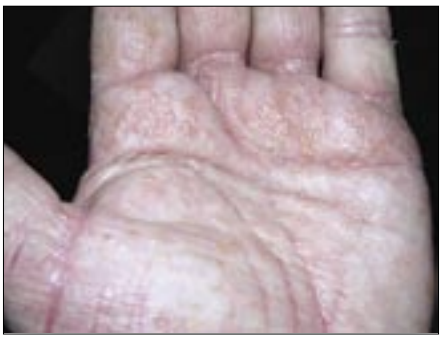

Fig. 4: Pompholyx

Stasis eczema results from venous hypertension. Control of the underlying problem with elevation, elastic support and, where possible, exercise will all help to reduce the eczema, but occasional mild topical steroid, in combination with regular emollients will minimise the skin inflammation.

Lichen simplex (Figure 5) is a chronic eczema, maintained by the habit of scratching or rubbing a specific area of skin. The effects of moisturisers and short-term use of potent topical steroids can be augmented by occlusion with paste-impregnated bandaging or zinc paste applied over the steroid at night. The paste preparation is lifted off with a cream wash the following morning.

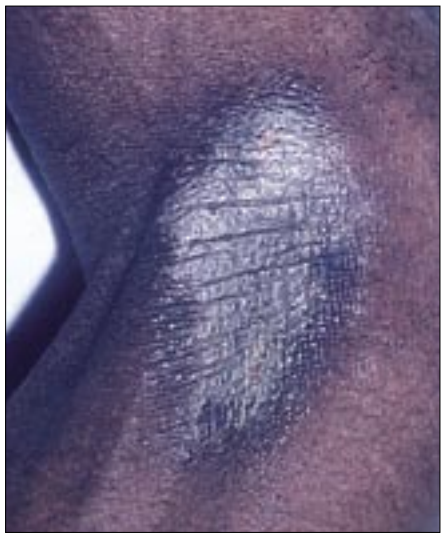

Fig. 5: Lichen simplex

Asteatotic eczema is most common on the lower legs and may be a sign of hypothyroidism or malnutrition. It can also be caused by repeated washing with soaps or detergents. Plentiful and regular application of emollients may be the only treatment needed.

Exogenous eczema should be treated by avoidance of the causative contact agent as well as general measures. If a contact allergy is suspected, the cause may be identified by allergy patch testing or an open usage test.

Ideally, any patient with a diagnosis of eczema should have adequate education about their condition and available therapy to maintain their skin in a good or moderate condition. In addition, they require ready access to a health professional with knowledge of skin disease management for help with acute flares, when extra therapy will often be needed.

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Essential Drugs in Dermatology

Ramadhan L Mawenzi
DipMed ADDV

Chief Dermatology Officer
Egerton University
Kenya

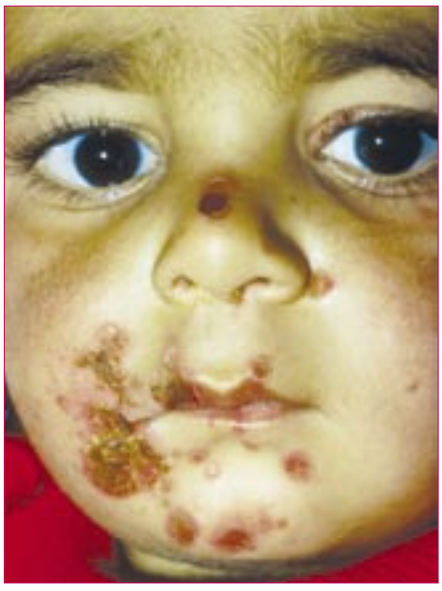
1. Gentian Violet

Gentian Violet (Crystal Violet) was discovered by Churchman in 1912. It is a methylrosaniline chloride dye which is effective against Gram positive cocci, especially *Staphylococcus aureus*, and some pathogenic yeasts, especially *Candida albicans*. It is much less active against Gram negative bacteria and has no effect against acid-fast bacilli (TB and leprosy).

It is a dark green powder or greenish glistening pieces with a metallic lustre, and is sparingly soluble in water. It has to be stored in a dark bottle and kept in a cool dark place to maintain its potency. It is very cheap and is available over the counter. It is used as a 0.5% aqueous solution (0.5 gram Gentian Violet in 100ml water) to treat the following:

Impetigo

First remove the crusts with soap and water. Then apply Gentian Violet paint. Do this twice a day for 2–3 days until it is healed. Keep the child away from other children until it is healed because it is very contagious and can easily be passed on from child to child.



Impetigo

Photo: Ramadhan Mawenzi

Herpes Zoster

It has no effect on the virus causing the herpes zoster itself, but painted on any broken blisters, twice a day, it will prevent secondary bacterial infection.

Small Burns and Lacerations

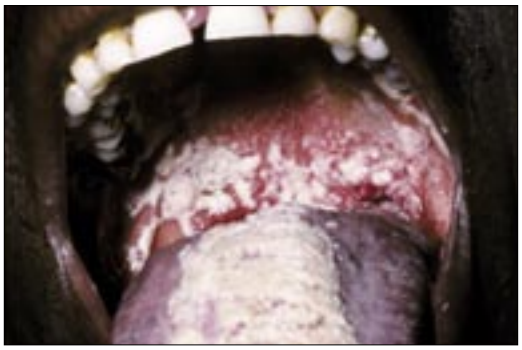
Apply twice a day as an antiseptic to prevent secondary bacterial infection.

Oral, Vaginal and Cutaneous Candidiasis

- For oral candida use 5ml (1 teaspoonful) as a mouthwash. Get the patient to swish it around the mouth for as long as he can bear it and then spit it out. It is in fact safe to swallow, and this can be done if the thrush is extensive and goes down into the oesophagus. Use it 3 times daily after food. The candidiasis will be better in 2-3 days. For babies, get the mother to paint it onto the affected areas of the mouth with a piece of clean cloth rolled on the index finger
- For vaginal candidiasis thoroughly paint on the vaginal walls using Chittle forceps and gauze twice daily
- For cutaneous candidiasis, including balanitis, paint it onto the affected skin twice daily using a cotton wool tipped applicator or a feather, until it is better (3–4 days).

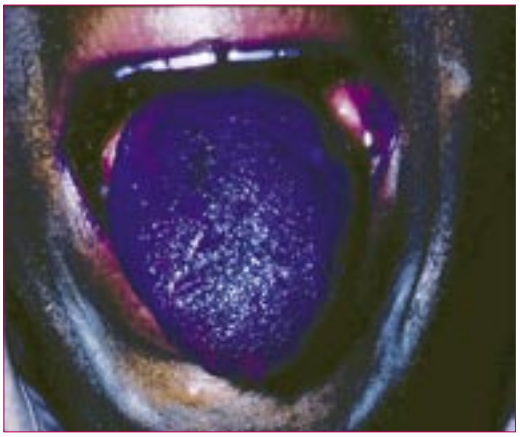
Problems with using it

- It is very messy to use, staining everything it comes in contact with a purple colour. On the skin and mucous membranes this is unsightly for a while but soon disappears. On clothes, furniture and floors the staining may be permanent
- It tastes absolutely foul when applied in the mouth, but most patients will put up with this because it is so effective in treating oral candidiasis
- It can be caustic if the concentration exceeds 1% (if the water evaporates). Storage technique is therefore of crucial importance (see above).



Oral candida

Photo: Ramadhan Mawenzi



Gentian Violet staining of the tongue

Photo: Ramadhan Mawenzi

2. Whitfield's Ointment (Benzoic acid compound ointment)

Whitfield's Ointment consists of 3% salicylic acid and 6% benzoic acid in emulsifying ointment. It is very cheap and available over the counter.

Salicylic acid and benzoic acids are keratolytic agents (they remove surface keratin from the skin). Whitfield's Ointment is mainly used for treating dermatophyte fungal infections, i.e., ringworm. It works by removing the keratin on which the fungus lives rather than by killing the fungus itself. Apply it twice a day until the ringworm is gone and for a further 2 weeks to make sure it does not come back. It can be used in this way for treating:

Tinea Corporis

Ringworm on the face or body.

Tinea Pedis

Ringworm on the feet.

Tinea Cruris

Ringworm in the groin. It may sting at this site.

It *does not work* for infections of the scalp and nails (tinea capitis or tinea unguium), or for candida or pityriasis versicolor.

It can also be used as a mild keratolytic agent for treating:

Plane Warts and Small Common Warts

Ichthyosis

Dry scaly skin, especially on the extremities.

Heavy Dandruff

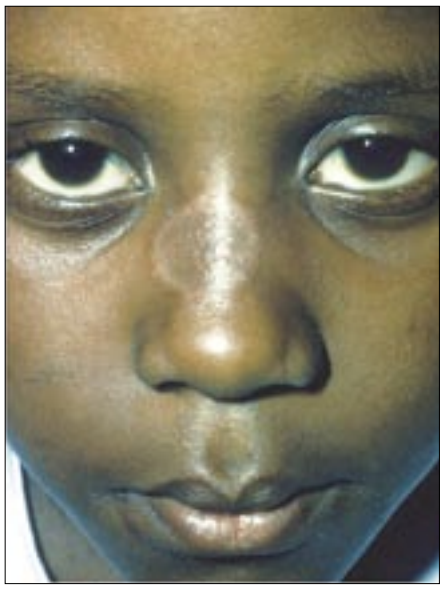
Rub it into the scalp once a week.

It can also be used:

- To increase the percutaneous absorption of other topical drugs e.g., steroids through its action of softening and loosening keratin. Apply the Whitfield's Ointment at night and the topical steroid in the morning. This is useful for patients with hyperkeratotic eczema on the palms and/or soles
- To prepare the skin for debridement. It is applied twice a day on any hard tenacious crust, to soften it up and loosen it, so that it can be removed.

Unwanted effects of Whitfield's Ointment

- May sting especially when applied in the flexures
- Applied over large areas it can cause 'salicylism' especially in small children
- Because it is an ointment it can make the skin shine. Most people like this, but some may find it cosmetically unacceptable.



Ringworm on the face
Photo: Ramadhan Mawenzi

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Quiz: Questions

Are All White Spots Vitiligo?

L Claire Fuller MA FRCP
Visiting Senior Lecturer
Regional Dermatology Training Centre
Kilimanjaro Christian Medical Centre
Moshi, Tanzania

Patients often present to the Dermatology Department complaining of some problem with the pigmentation in the skin. After any sort of skin problem the dark skinned patient may develop changes in pigmentation. Often they assume they have vitiligo but there are several other conditions that can produce reduction in pigmentation. The following cases are common problems that we see frequently here in Tanzania. We present them in quiz form . . . Have a go!

Case 1: What Is It?

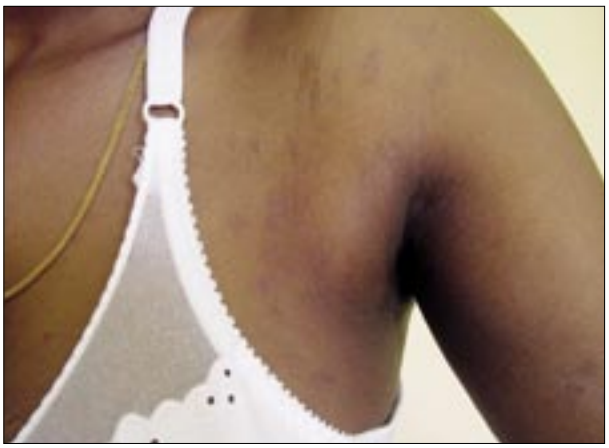


Fig. 1: Scaly oval lesions scattered over the trunk and tops of limbs

- **This patient may be itchy or not**
- **The rash has been present for a few weeks**
- **It does not occur on the face**
- **What is the diagnosis?**
- **What is the differential diagnosis?**
- **How will you treat it?**

Case 2: What Is This?

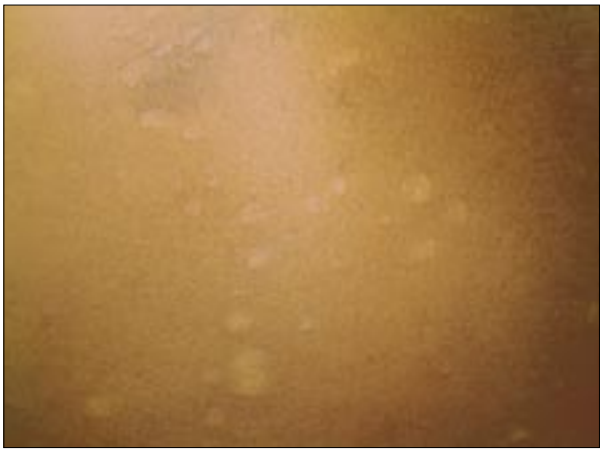


Fig. 2: Hypopigmented scaly macules

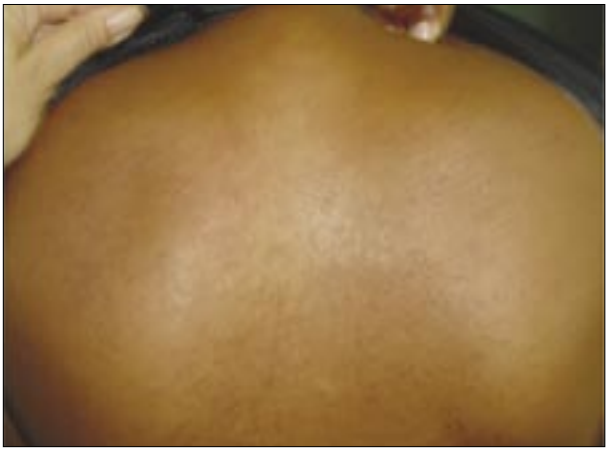


Fig. 3: Macules scattered over upper back and upper chest

- What is the diagnosis?
- What is the cause?
- What is the differential diagnosis?

- How would you diagnose it?
- What treatment would you use?

Case 3: What Is This?

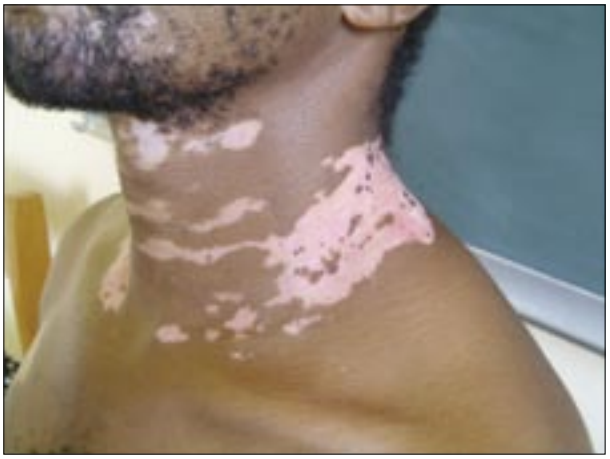


Fig. 4: De-pigmented macular areas in symmetrical distribution

Fig. 5: De-pigmented areas may extend over areas of trauma like backs of hands

- Complaint: white spots on the skin

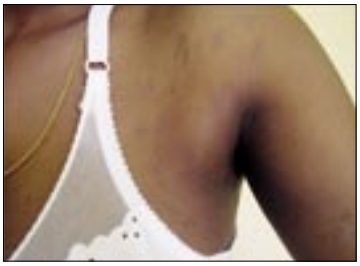
Summary of Descriptions/Questions

1: Scaly oval lesions scattered over the trunk and tops of limbs (Figure 1).
2. Hypopigmented scaly macules (Figure 2).
3. Macules scattered over upper back and upper chest (Figure 3).
4. De-pigmented macular areas in symmetrical distribution (Figure 4).
5. De-pigmented areas may extend over areas of trauma like backs of hands (Figure 5).

See Next Page for Answers

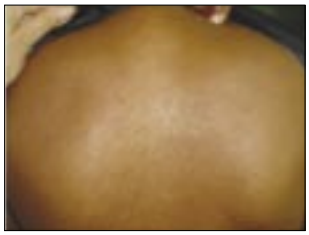
Quiz: Answers

Case 1: Answer – Pityriasis Rosea



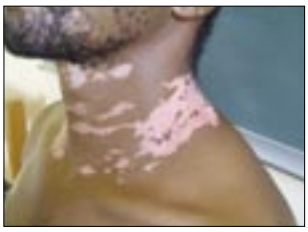
- **Pityriasis rosea**: rash mainly over the torso
- **Why is it not psoriasis?**
  - Distribution and morphology are wrong: 5mm scattered oval slightly scaly macules over the trunk, extending onto the tops of arms and tops of thighs (area that is covered by wearing shorts and a T-shirt)
  - There may be a single bigger lesion that was noted 2 weeks before the widespread rash arrived; this is called the 'Herald Patch'
  - There is no thickened, silvery scale, no nail changes and no involvement of scalp.
- **Why is it not eczema?** Scaly oval lesions with a characteristic fine scale around the rim of each lesion (like a collar) is very typical of pityriasis rosea. The distribution along the lines of the ribs is also very classical . Discoid eczema is not often confined to the trunk. It would be expected to affect the limbs too.
- **What treatment?** Treatment is not necessary unless it is very itchy. Then a topical steroid, such as betamethasone 0.1% ointment can be used.
- **How long does it last?** About 6 weeks and then spontaneously settles and may leave behind some post-inflammatory pigmentary changes (either hyper-pigmentation or hypo-pigmentation).
- **Tips:** if the patient suffers also from atopic dermatitis, pityriasis rosea may be more widespread.

Case 2: Answer – Pityriasis Versicolor



- **Complaint:** rash of white spots over top of chest.
- **Examination:** pale (hypo-pigmented) oval macules, slightly scaly overlying the upper chest and upper back.
- **Cause:** pityrosporum yeast (also known as *Malassezia furfur*).
- **Diagnosis:** classical clinical picture, but also a scraping from the surface of the skin viewed in 10% potassium hydroxide and a drop of ink shows spores and hyphae together which are said to look like 'meat balls and spaghetti'.
- **Differential diagnosis:**
  - Why is this not leprosy? There are too many lesions and sensation would be intact over them. Also, they are slightly scaly (leprosy lesions are smooth)
  - Why not pityriasis alba? This is usually on the face and is a variant of eczema. The distribution of pityriasis versicolor is so typical
  - Why not vitiligo? The slight scale would be against vitiligo which is absolutely macular (i.e., flat and smooth).
- **Treatment:** topical sodium thiosulphate solution 20% in 1% cetrimide solution daily for 2 weeks will settle it. Alternatives include topical clotrimazole cream, topical terbinafine cream or, if very extensive, an oral azole antifungal such as ketoconazole or itraconazole 200mg once daily for 1–2 weeks.
- **Tips:** it tends to recur, so maintenance treatment is recommended with selenium sulphide shampoo as a scalp and body wash once per month.

Case 3: Answer – Vitiligo



- **Examination:** symmetrical macules (flat lesions) of hypo- or depigmented skin. Often over knuckles of hand and elbows and knees. May occur anywhere on the body. The skin itself is of normal texture.
- **Cause:** assumed to be an autoimmune condition although no antibody has been identified.
- **Diagnosis:** clinical picture is typical.
- **Differential Diagnosis:**
  - Why is this not leprosy? Symmetry is very typical of vitiligo
  - There is no loss of sensation over the lesions
  - Some of the lesions are occurring over areas of trauma (koebnerization).
- **Treatment:** this is difficult. Some patients do well with a short course of potent topical steroid applied to the white area for 6 weeks. It is best to avoid steroids for longer periods as there is a risk of skin thinning (atrophy) if 6 weeks is exceeded.
- **Course:** can spontaneously remit and recur but, especially when it affects the extremities, it can be very persistent.
- **Tips:** patients are often very distressed about this condition and so a great deal of empathy and understanding is useful at the start.

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TALC: Images for Development

David Chandler
General Manager, TALC
St Albans, UK

For many people who work in development the names of Teaching–aids At Low Cost (TALC) and Professor David Morley are always linked. The work of Professor Morley and TALC has always been the desire to introduce innovative methods of teaching, training and healthcare monitoring.

In the early 1960s, when David Morley returned from West Africa to take up a post at the London School of Hygiene and Tropical Medicine, he could not have imagined that the next few years would be an epic journey to change and introduce new methods and ideas.

There are many diseases which are mainly diagnosed by visual inspection. This is particularly relevant for skin disease and conditions which have skin involvement, even more so in developing countries. David Morley has always believed the power of a picture is much greater than the use of words, particularly for people living in Africa. In 1965, he introduced 24–image slide and scripts sets on Measles, Growth Monitoring, Smallpox and Management of Diarrhoea at the low cost of six shillings (£0.30). These sets were produced because of the demand from students and fellow teachers who felt that David Morley's method and approach to teaching should be given greater exposure.

Since the early days of TALC, the majority of distribution and sales have been either slides or books. Although a very successful process in the past, in recent years the demand has shown a dramatic change. Between 1992 and 2002 slide sales dropped from 11,696 sets per annum to 1,120 sets per annum, whilst book sales fell from 52,564 to 27,912.

Why have these changes happened? In the case of slides, it could be due to the lack of equipment or a change of study and teaching methods.

The importance of demonstrating the difference between different diagnoses is clear when the untrained eye views similar looking diseases, but is unable to make a clear distinction.

TALC is aware that it is also important to show diseases in the relevant setting and skin colour. In Africa, to show Caucasian skin in many instances would be inappropriate and could possibly imply that certain diseases do not affect those who do not have white skin.

Given the changing learning and teaching environment, TALC took the view that a low-tech solution could be used. This included the introduction, firstly, of Picture Cards (printed copies of slide images), and then Bench Aids. These methods of education would not rely on the availability of electricity, a slide projector or, most importantly, a working bulb.

The Bench Aids provide an ideal opportunity for quick reference and identification of a disease with simple guidelines on appropriate treatments. Made from durable coated material, this low cost item can be used over and over again. The current series, developed by Dr Barbara Leppard, contains cards on atopic eczema, common bacterial infections, herpes zoster, ringworm, scabies and tinea capitis. The sets are available in English and Swahili.

The development of other areas of disease or step-by-step treatment guides could also be useful as Bench Aids. TALC is currently exploring other potential sources of information for future development. ❑

David Chandler has been in post as **General Manager of Teaching-aids At Low Cost** (**TALC**) since 1999. His previous work included the role of Coordinator of the Skin Care Campaign whilst at the National Eczema Society in London. He also acted as General Manager for the Psoriatic Arthropathy Alliance, a charitable organisation he co-founded with his wife following his diagnosis with psoriasis and psoriatic arthritis in the early 1990s.

TALC is a registered charity based in the UK. Main activity is the distribution of low-cost health education materials accessories to developing countries, including books, slides, bench aids, charts, videos, CD-ROMs and growth monitoring. TALC also commissions and publishes material.

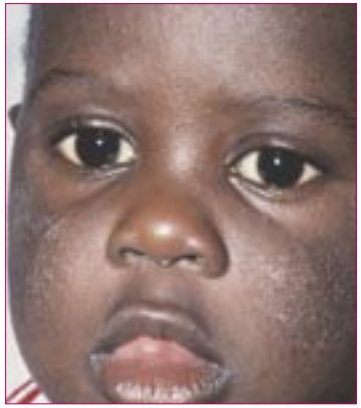
TALC, PO Box 49, St Albans, Herts AL1 5TX, UK
Tel: 44 (0) 1727 853869 Fax: 44 (0) 1727 846852
E-mail: info@talcuk.org Website: www.talcuk.org

ATOPIC ECZEMA

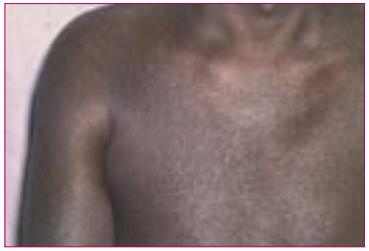
Commonest kind of eczema affecting about 10% of the population. Runs in families and is associated with asthma and hay fever.

CLINICAL FEATURES

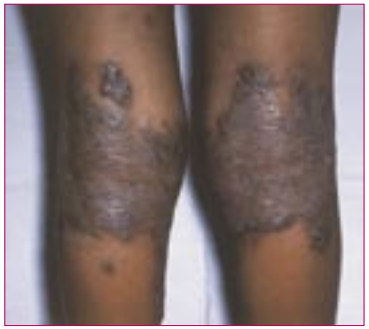
Very itchy rash. Symmetrical, poorly defined scaly plaques often associated with dry skin.



Most commonly starts age 3–12 months with an itchy rash on the cheeks &/or scalp (but can start at any age).

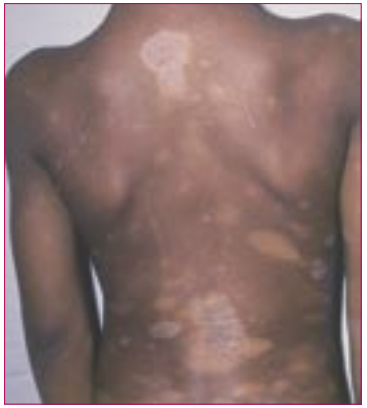


The rash may then spread to the rest of the body.

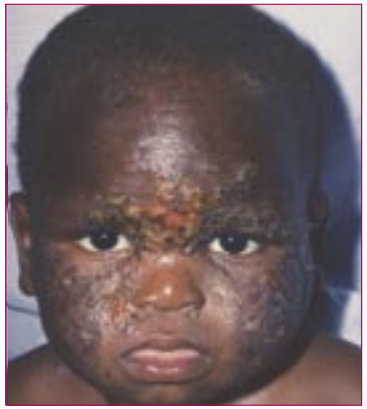


As the child gets older the rash may localise in the flexures.

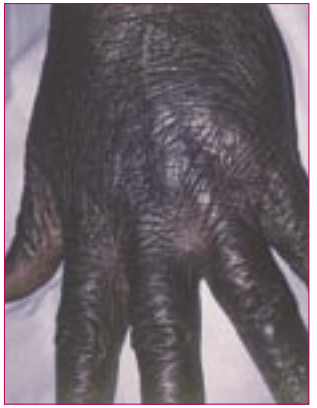
Shiny nails occur from rubbing the itchy skin.



As the rash gets better it may leave hypo-or hyperpigmentation.



Scratching can lead to secondary infection.



Constant rubbing of the skin leads to lichenification – thickening of the skin and increased skin markings.

TREATMENT

- 1% hydrocortisone ointment (not cream) applied twice a day. Do not use stronger steroids in young children.
- If the child is not sleeping, or keeping the family awake at night because of scratching, give promethazine syrup at night (start with a dose of 12.5mg and increase as necessary until the child sleeps through the night).
- If the eczema is weeping soak in potassium permanganate diluted to a pale pink colour for 10 minutes twice a day.
- For secondary infection give oral cloxacillin for 1 week.

DIFFERENTIAL DIAGNOSIS

The most important disease to be differentiated from atopic eczema is scabies. The most important differences are shown below.

Atopic eczema

- Usually begins age 3–12 months
- Very itchy rash – itches day & night
- Rash symmetrical
- Rash begins on face &/or scalp; later often involves flexures
- May be secondarily infected
- Not contagious – other family members not itching
- Runs in families together with asthma and hay fever
- No burrows

Scabies

- Occurs at any age
- Very itchy especially at night
- Rash all over the body but spares face & scalp
- May be secondarily infected
- Contagious between close contacts – those sharing a bed
- Other family members also itching
- Burrows present in fingerwebs, along sides of fingers & on front of wrists (palms & soles in infants)

Designed by Barbara Leppard and Alfred Naburi, Regional Dermatology Training Centre, KCMC, Moshi, Tanzania TALC

TALC

Journal Extracts and Reports from the Regional Dermatology Training Centre, Moshi, Tanzania

Neil H Cox BSc(Hons) FRCP
Dermatology Department
Cumberland Infirmary
Carlisle, CA2 7HY, UK

Immune reconstitution inflammatory syndrome associated with HIV and leprosy

Couppié P, Abel S, Voinchet H, et al.
Arch Dermatol 2004; 140: 997–1000

Many HIV-associated skin conditions improve when the HIV infection is treated – for example, psoriasis, seborrhoeic dermatitis, candida infection, and drug eruptions. However, others may worsen or become apparent during treatment. Examples include viral infections such as herpes zoster or molluscum contagiosum. This report adds leprosy to the list of conditions that may present in an atypical ulcerative pattern as the immune system reactivates.

Transmission of cutaneous leishmaniasis by sand flies is enhanced by regurgitation of fPPG

Rogers ME, Ilg T, Nikolaev AV, Ferguson MA, Bates PA.
Nature 2004; 430: 463–467

In sand flies with mature Leishmania infections the anterior midgut is blocked by a gel of parasite origin, the promastigote secretory gel, which contains a filamentous proteophosphoglycan (fPPG) that is inoculated with the parasites when the fly bites. This gel not only adds to the virulence of the leishmania parasite but its presence seems to make the fly bite more often, therefore increasing the risk of disease transmission. The proposed explanation is that the sticky gel prevents the sandfly from getting an adequate blood meal, so it becomes frustrated and bites repeatedly. fPPG may be another target for vaccines or prophylactic treatment.

Blue cellulitis: a rare entity in the era of Hib conjugate vaccine

Inamadar AC, Palit A. *Pediatr Dermatol* 2004; 21: 90–91

These authors describe a 6–month old child with unilateral facial swelling of bruise-like colour, associated with fever and upper respiratory tract infection. It is easy for those of us in more affluent countries to forget that the commonest cause of facial cellulitis in a young child used to be *Haemophilus influenzae*. I suspect the blue colour in part reflects the dark skin of the patient, as a red colour was more typical in Caucasian skin, but the message is important – the lesions may initially be quite minor and mistaken for minor trauma. In older children, pneumococcal infection should be suspected – and I would include haemorrhagic oedema of childhood in the differential diagnosis.

Extensive pityriasis alba in a child with atopic dermatitis

Sandhu K, Handa S, Kanwar AJ.
Pediatr Dermatol 2004; 21: 275–276

This case report, the subject of which is evident from the title, is probably not that unusual – the mechanism is probably that of post-inflammatory phenomenon. However, it reminded me of two important issues that the authors do not discuss. One of these is that, for those who have not seen it before (and especially if associated atopy is subtle), it might be confused with leprosy. The other issue is that the pigment loss may not be apparent when the skin is inflamed, so patients may blame the development of pale areas on their treatment and the physician who administered it.

Vaccines and immunotherapies for the prevention of infectious diseases having cutaneous manifestations

Wu JJ, Huang DB, Pang KR, Tyring SK.
J Am Acad Dermatol 2004; 50: 495–528

This article raises hope for prevention of some diseases of world-wide importance. Most relevant to this journal is the potential for vaccines to HIV/AIDS, leishmaniasis and dengue fever. In the case of leishmaniasis, genetic advances have identified at least 100 gene targets that are being investigated as vaccine candidates. However, the major work is on HIV – since trials started in 1987, 34 vaccines have started preliminary (Phase I) trials, a few have progressed to Phase II, and 'at least 74 are in some stage of development'.

Regional Dermatology Training Centre Research Reports

Tungiasis in Kenya

Amino S Fora

This study demonstrated a 31% prevalence of tungiasis in a sample of 250 subjects from the Marasmit community in Kenya, the peak prevalence being in the first decade of life (41% in those aged 1–9 years). A questionnaire showed that having tungiasis was positively linked with poor knowledge of the condition, temporary housing, poor foot hygiene and low socio-economic status. Many of these risk factors are inter-related, so targeted education may be helpful.

Drug Eruptions From Anti-tuberculous Therapy

Elizabeth Q Mvila

In this questionnaire study of 300 patients who had received Direct Observed Treatment Short-course (DOTS) for TB, 34% had experienced a drug eruption, mainly early in treatment. The anticipated higher frequency of eruptions in those with concurrent HIV infection was confirmed – a higher prevalence of drug eruption in males and in the 20–50 year age group was not explained but this reviewer suspects that it may reflect the higher frequency of HIV in men of this age. A larger analysis of the DOTS database might confirm this view.

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Correspondence/Enquiries to:

Dr Paul K Buxton
British Association of Dermatologists
4 Fitzroy Square
London W1T 5HQ

Email: admin@bad.org.uk
m.mcgavin@icthesworldcare.com

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The following points are emphasised in submitting material for publication:

- Words and phrases used should be understood by people for whom English is not their first language
- Content should be clear to those without specialist health professional training
- A glossary should be provided for technical terms
- Sections and subsections with headings are preferred
- Good-quality photographs, tables and summary boxes are encouraged
- References are the responsibility of the author(s) and should follow the presentation used in this Journal
- Material is preferred in Word format and sent by e-mail, or on disk or CD-Rom

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