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SEVERE DRUG HYPERSENSITIVITY REACTIONS

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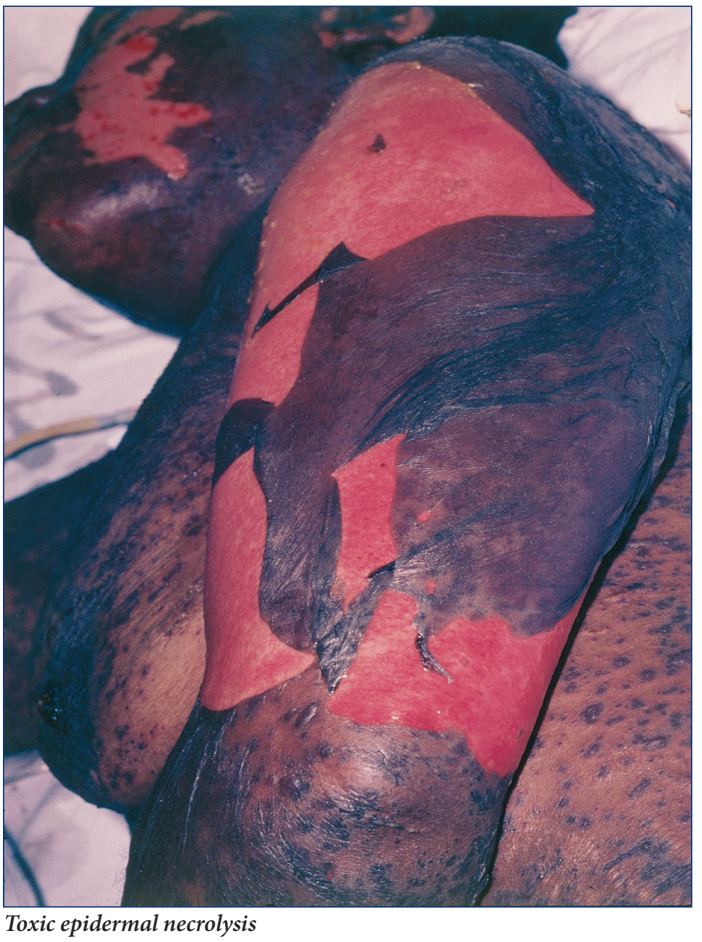
Introduction

Adverse drug reactions (ADR) are responsible for about 3% of all hospital admissions in Europe and between 10-20% of hospital in-patients develop ADRs. Ninety-five percent of ADRs are so-called Type A reactions. They are predictable from the primary and secondary pharmacology of the drug and are dose-related - hence dose reduction resolves the problem. Examples include gastric bleeding from non-steroidal anti-inflammatories, or renal impairment from diuretics. Drug hypersensitivity reactions are so-called type B (bizarre or idiosyncratic). These are not predictable from the pharmacological effects of the drug and are less obviously dose-related. Individuals who develop these reactions have some sort of predisposition, the nature of which is unclear, although infection with HIV confers high susceptibility to development of severe drug hypersensitivities. Present theories to explain these reactions are either:

1. Susceptible people who have altered metabolic breakdown pathways which allow formation of immunogenic drug metabolites,[1] or;

2. There may be alteration of immune control processes so that these individuals develop active immune responses. Non-allergic people somehow develop immunological tolerance which prevents active immune hypersensitivity.



Toxic epidermal necrolysis

Photo: Barbara Leppard

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Severe Drug Hypersensitivity Reactions

Drug Metabolism and Degradation

Chemicals, such as drugs, undergo metabolic processing through two phases in order to be degraded and excreted. The first phase of metabolism is performed by enzymes, the biggest and most important group of which are the cytochrome P450s (CYP450). Sometimes, the products resulting from Phase 1 metabolism may be directly toxic - as for paracetamol, which can damage the liver, and dapsone which can damage peripheral nerves. Also, the metabolic by-products may be chemically unstable and reactive, able to bind to cellular proteins – the coupled drug or metabolite being called a 'hapten'. This may result in structural alterations leading to immune recognition. Hence, the metabolites generated by Phase 1 metabolism usually require immediate detoxication or neutralisation.

Once immunogenic haptens are formed, the immune system may develop any of a wide range of effector mechanisms including those involving T lymphocytes and/or antibodies of different classes.[2,3] The immune system takes a minimum of 7 to 10 days to generate immunological memory and immune reactivity – which means suspected causal drugs must either have been experienced at least once previously to initiate sensitisation, or there must be a sustained course of a drug taken over at least 2 weeks.

The Clinical Patterns of Drug Rash

These reflect the different types of immune effector process:

- Urticaria is due to antibodies of IgE type and when severe may include anaphylaxis

- Pemphigus is due to antibodies recognising antigens on the surface of skin cells

- Vasculitis is damage to the lining of small blood vessels in the skin, kidneys, joints and other sites. This is caused by complexes of antibodies bound to their antigenic target. The complexes stick in small vessels causing damage, allowing leakage of red blood cells (purpura).

- T lymphocytes mediate several patterns of drug hypersensitivity including eczematous reactions, maculo-papular reactions, toxic erythemas, fixed drug eruptions, systemic reactions, called 'DRESS' (**D**rug **R**eaction with **E**osinophilia and **S**ystemic **S**ymptoms) and the spectrum of Erythema Multiforme (EM), Stevens Johnson Syndrome (SJS) and Toxic Epidermal Necrolysis (TEN). These are the most severe reactions and will be considered in more detail below.

The Spectrum of EM, SJS and TEN

Erythema multiforme (EM) is a rash typically consisting of so-called 'target' lesions – circular lesions organised as concentric rings of colour, the centre of the lesions being a darker shade of red than the periphery (Figure 1). 'Typical targets' are raised and palpable but 'atypical targets', flat (macular) darker red lesions can occur. EM lesions can blister, usually in the centre but, sometimes, there is a ring of blisters. The blistering process has a tendency to involve mucosal surfaces and when EM blisters, concerns arise that it may be about to develop into the very severe reaction of

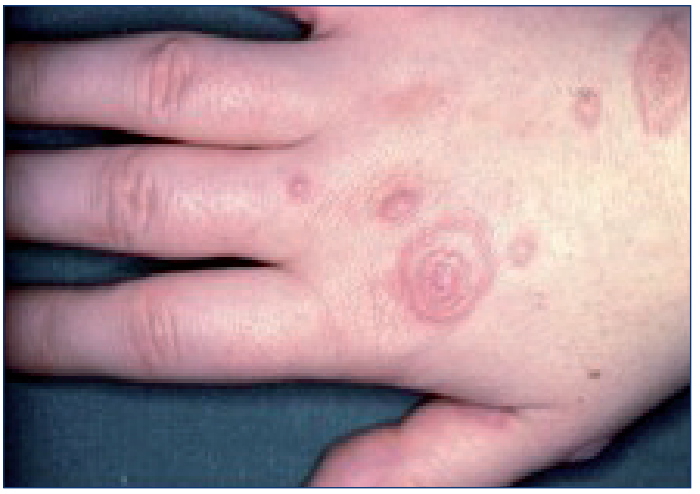

Fig. 1: Example of erythema multiforme (EM) with blistering
Photo: Peter S Friedmann

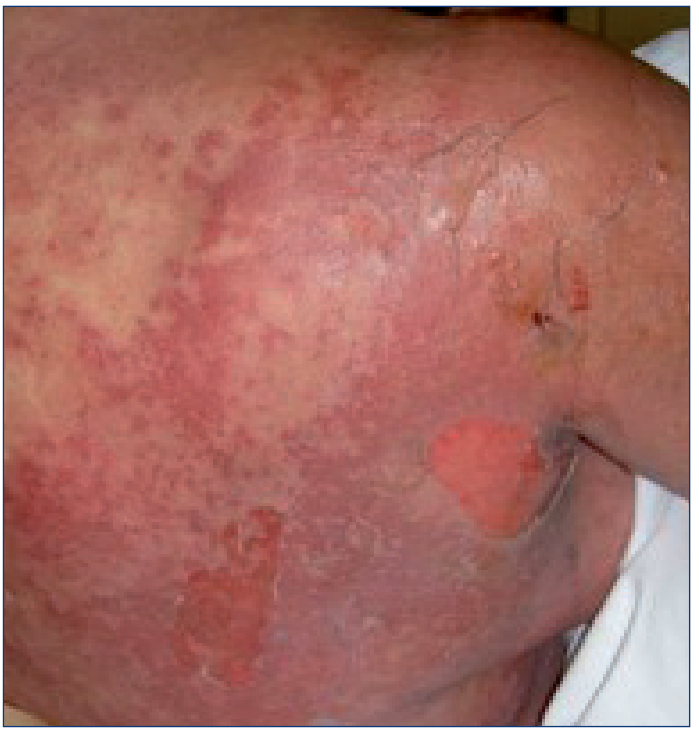

Fig. 2: Stevens Johnson Syndrome (SJS) / Toxic Epidermal Necrolysis (TEN)
Photo: Peter S Friedmann

TEN. The spectrum of these conditions has been defined by Roujeau and colleagues as follows:[4,5]

- EM major is usually peripheral/acral, may blister, but the area of blistering involves less than 10% body surface area (BSA), may have some mucosal lesions and is usually triggered by herpes simplex virus.

- Stevens Johnson Syndrome (SJS) is defined as widespread erythematous or purpuric macules or flat atypical targets with blistering/detachment less than 10% BSA.

- Overlap SJS/TEN is detachment between 10-30% with widespread purpuric macules or flat atypical targets (Figure 2).

- TEN occurs in two patterns: with EM lesions either typical or atypical targets, and macules and detachment of more than 30%

BSA. The second pattern is without EM lesions or 'spots' but with detachment of large epidermal sheets above 10% BSA.

The more severe the cutaneous component of a severe drug hypersensitivity, the more likely it is that there will be other features of systemic involvement such as abnormal liver function, a drop in white cell count and/or platelets, but often an increase in eosinophil count.

Causal Factors

Limited forms of EM, with or without blisters, and/or mucosal lesions are usually induced as part of an aberrant response to viruses. Herpes simplex is much the most likely, but mycoplasma and some other microbes can also induce this reaction. The more severe forms of SJS and TEN are almost always due to drugs. There is long list of drugs that have been associated with it, but anti-convulsants (carbamazepine and phenytoin), antibiotics (sulphonamides, trimethoprim, anti-tuberculous drugs, beta-lactams), non-steroidal anti-inflammatories (diclofenac) and allopurinol are some of the commoner culprits.*

**Culprit: The one guilty of an offence*

Pathogenesis of SJS/TEN

There is good evidence that T lymphocytes mediate the process. As a result of being triggered by recognition of the drug, the immune T cells release various factors which induce the keratinocytes (epidermal cells) to die by the process of apoptosis (cell suicide). So the epidermal necrolysis is the process of large scale keratinocyte death – which, at the individual cell level, once initiated cannot be stopped. This is one of the major factors determining the generally poor response to treatment of the process.

Prognostic Factors

A large group of collaborators reviewed the pathophysiological features of a large series of cases of TEN and identified seven factors which have a very strong contribution to outcome.[6] These factors are scored as 1 (one) if present and 0 if absent – the numbers are added together to give the SCORTEN, which has a highly robust predictive value of mortality (Table 1).

Clinical parameter	Individual score
Age > 40y	Y = 1
Malignancy	Y = 1
Tachycardia >120/min	Y = 1
Initial area of detachment > 10%	Y = 1
Serum urea >10mmol/L	Y = 1
Serum glucose >14 mmol/L	Y = 1
Bicarbonate <20mmol/L	Y = 1

SCORTEN	Predicted mortality %
0 – 1	3.2
2	12.1
3	35.3
4	58.3
5 or more	90
(Max 7)	

Table 1: SCORTEN Assessment and Prognostic Value for Predicting Mortality

Management of Severe Drug Reactions

1. ***Make the correct diagnosis.*** Clinical assessment of the skin and evidence of systemic involvement – altered liver function, kidney function or evidence of bone marrow suppression (low white cell count or platelets).

2. ***Identify the responsible drugs.*** The key to identification of the cause is a very careful drug ingestion history. The dates of first administration and discontinuation of all drugs the patient is receiving, or has received in the last month, is vital. It is much easier to analyse the events if a flow chart or diagram is drawn (Figure 3).

3. ***Immediate discontinuation of any possible culprit drugs.***

4. ***Assessment of the potential severity of the condition.***

5. ***Start appropriate supportive and specific therapeutic measures.*** If EM with blisters is present at the first presentation, the SCORTEN should be assessed. Anyone with a SCORTEN of 3 or more should be placed in at least a high dependency unit or ideally an intensive care unit. A central venous line should be inserted early, since if the TEN spreads it can make it much more difficult both to insert and to secure such a line.

There is no complete consensus on the most effective treatment for stopping the progression of the epidermal necrolysis, but four treatment approaches have been reported favourably:

- Steroids are not recommended and there is some evidence they may have a deleterious effect. However, in other systemic drug reactions such as DRESS, steroids can be very helpful.

- Intravenous immunoglobulin (IVIG) in high dose (up to 1 G/Kg) daily for 3 to 5 days has been reported to be highly effective. The mechanism of action appears to be mediated by naturally occurring antibodies which neutralise the factors causing death of skin cells.[7] However, not all batches of IVIG contain such antibodies, so it certainly does not always work. Hence, there is open controversy about the value of this treatment. However, there is a strong preponderance of evidence that it is one of the best approaches to therapy.[8] The key aspects that favour a good effect are: i) Very speedy initiation of the treatment – delay of even a few hours can make all the difference. ii) High dosage.

- Other treatments which require much more evaluation, but for which good to excellent results have been reported, include ciclosporin (at 3mg/kg), cyclophosphamide (300mg IV/day for 3 to 5 days) and infliximab (5mg/kg IV x1).

- Supportive therapy includes careful fluid and electrolyte balance; the skin should be dressed with non-adhesive silicone mesh dressings (Mepitel) covered with non adherent paraffin tulle or antiseptic (but not antibiotic) creams, such as silver sulphadiazine. Then, layers of bandages are applied to keep everything in place – no adhesive dressings must be applied to the skin, as they will simply detach more epidermis wherever they are stuck. Dressings should be left in place without disturbance as much as possible. Severe cases are often febrile as part of the

reaction – this is not an indication for systemic antibiotics, unless infection is confirmed by blood culture or clinically appropriate swabs or samples.

The course of a severe episode of SJS/TEN can run over 2 - 4 weeks. Once the causal drug has been stopped and specific and supportive therapy commenced, the chance of survival depends on the overall severity (SCORTEN), the speed with which specific therapy is started and the quality of the nursing care to prevent complications and sepsis.

This patient (Figure 3) had been on Ramipril for a long time so, although it is a possible culprit, it is unlikely. Flucloxacillin was started after the reaction began so it can clearly be excluded.

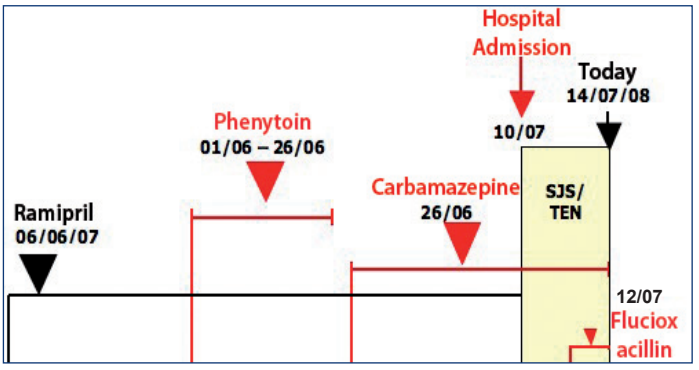

Fig. 3: Example Drug Ingestion Chart

Carbamazepine was started 14 days before the reaction – which is just long enough for immune sensitisation to develop – so it is much the most likely candidate. The difficult one is phenytoin which was given for one month before being discontinued, 14 days before the reaction started and was substituted by carbamazepine. The timing is such that this drug cannot be excluded. Clues may come from whether or not the reaction is subsiding on the day we see the patient (4 days after it began). If it is reducing, this would be strongly against carbamazepine and would point at phenytoin. If the reaction is worsening, it points much more towards carbamazepine. Anyway, it must be stopped immediately and, ideally, no substitute introduced until the reaction is resolved. If a substitute is required, it should be a completely unrelated anti-convulsant.

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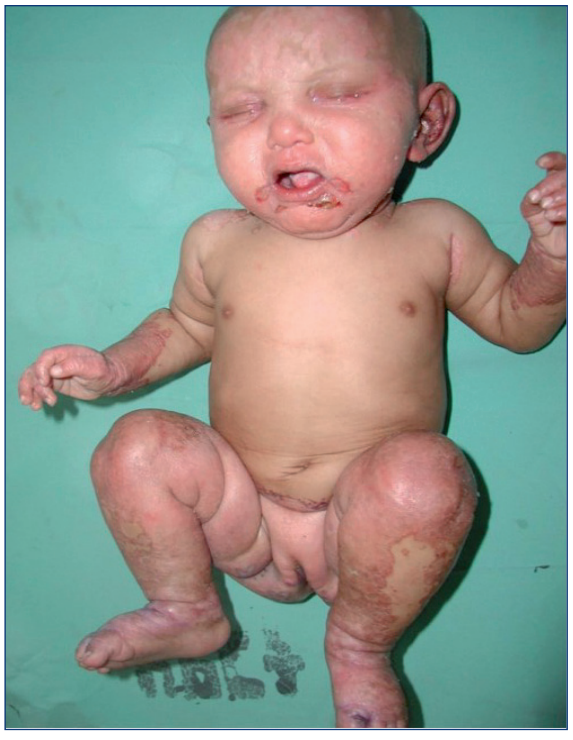
Clinical Conundrum — Questions



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This 6-month old baby was weaned 2 months ago. She developed eczema-like plaques on the face (notably around the mouth but relatively sparing the vermilion border of the lips), also on the napkin (diaper) area and distal limbs. She became irritable and photophobic, with loss of scalp hair.

A skin biopsy revealed spongiosis and acanthosis with dermal oedema and dilated capillaries in the papillary dermis.

QUESTIONS:

1. What is the likely diagnosis?
2. What is the underlying cause?
3. What happens if the condition is not treated?
4. What is the treatment?

ANSWERS on Page 11

MANAGING PSORIASIS IN THE TROPICS

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Introduction

Psoriasis is a common, chronic, inflammatory skin disease of the skin affecting 1-2% of the population all over the world. It is rarely fatal but it is unsightly and may cause anxiety or depression.

Aetiology

Psoriasis is an autoimmune T cell-mediated disease which runs in families. The things that can make it worse are stress, streptococcal infections (sore throat), HIV infection, mechanical trauma (cuts, grazes, operation wounds), drugs such as chloroquine, lithium, β-blockers, and if the patient stops taking systemic steroids or stops using potent topical steroids.

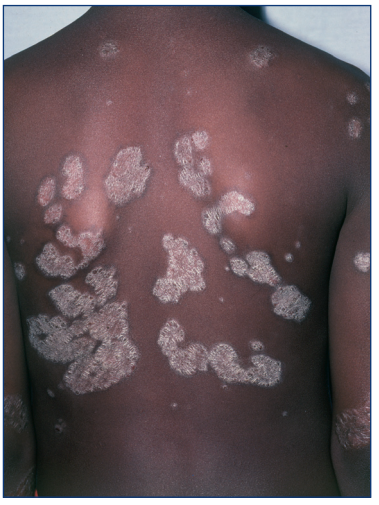

Fig. 1: Well defined red scaly plaques on the back
Photo: Barbara Leppard

Clinical Presentation

The diagnosis of psoriasis is usually easy. It can begin at any age, but most commonly between the ages of 15 and 30. There are well defined, symmetrical, red, scaly plaques (Figure 1). If you scratch the plaques with your fingernail the scale becomes more obvious. If the lesions are extensive the scale can make a mess in the bed or on the floor.

The scalp and nails are often involved too. In the scalp there are similar red, scaly plaques, but the hair prevents you from seeing them and also stops the scale from falling off. The diagnosis is made by running your hands through the hair. You feel thick scaly lumps. Sometimes the rash extends onto the forehead, the so-called corona psoriatica (Figure 2). The nail changes include pitting (dents on the surface of the nail), onycholysis (the nail lifts off the underlying finger), subungual hyperkeratosis (thick scale under the nail), and orange-brown discolouration underneath the nail.

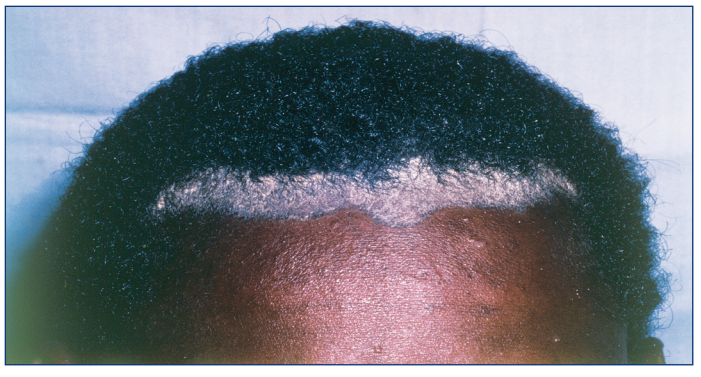

Fig. 2: Scalp psoriasis showing corona psoriatica
Photo: Barbara Leppard

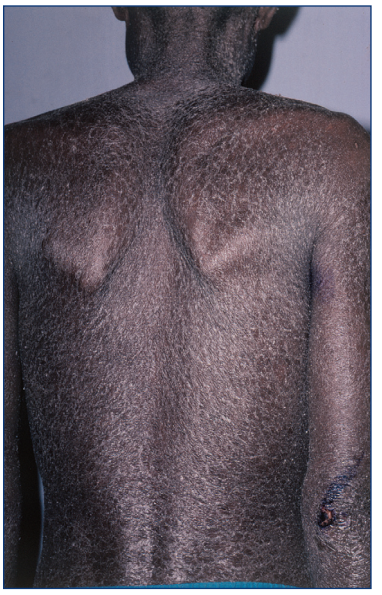

Fig.3: Erythrodermic psoriasis. The whole of the body is involved
Photo: Barbara Leppard

Variants of Psoriasis

Guttate Psoriasis

Guttate psoriasis is where there are extensive very small plaques of psoriasis (all the same size, that is, <1cm in diameter) which all appear at the same time, 10-14 days after a streptococcal throat infection. The lesions last for 2-3 months and then go away. It occurs most frequently in children and young adults. It mostly occurs in people who have never had psoriasis before. Some of them will never have it again, but some will later go on to develop ordinary psoriasis.

Erythrodermic Psoriasis

More than 90% of the body is red and scaly (Figure 3). This is a dangerous condition in the elderly as it can lead to hypothermia (due to heat loss through the red skin), high output cardiac failure (due to the extensive blood flow through the skin), renal failure (due to fluid loss through the skin) and hypoalbuminaemia (due to protein loss because of the high turnover of cells in the skin). Such patients should be admitted to hospital for monitoring of fluid output and temperature. Treat them with bed rest and lots of moisturisers on the skin. They may need systemic treatment with methotrexate if it does not settle.

Generalised Pustular Psoriasis

This is a medical emergency and patients need to be admitted to hospital. Almost the entire skin is red and, more than that, there are recurrent sheets of sterile pustules (Figure 4). The patient feels unwell and may have a fever and rigors. It is usually caused by the patient being given systemic steroids or a potent topical steroid, and then the treatment has been stopped.

Psoriasis in Patients with HIV/AIDS

Psoriasis may appear for the first time in association with HIV infection, or it may worsen considerably in someone who already has psoriasis. It may develop at any stage of HIV infection, but usually disappears in the terminal stages of AIDS. Any pattern of psoriasis can occur but often there are very hyperkeratotic lesions (Figures 5 & 6). Erythrodermic psoriasis and generalised pustu-

lar psoriasis can also occur and may be difficult to manage. Psoriatic arthritis is much more common, affecting 20-50% of patients. It is often severe and painful giving a clinical picture similar to Reiter's syndrome and reactive arthritis (Figure 7).

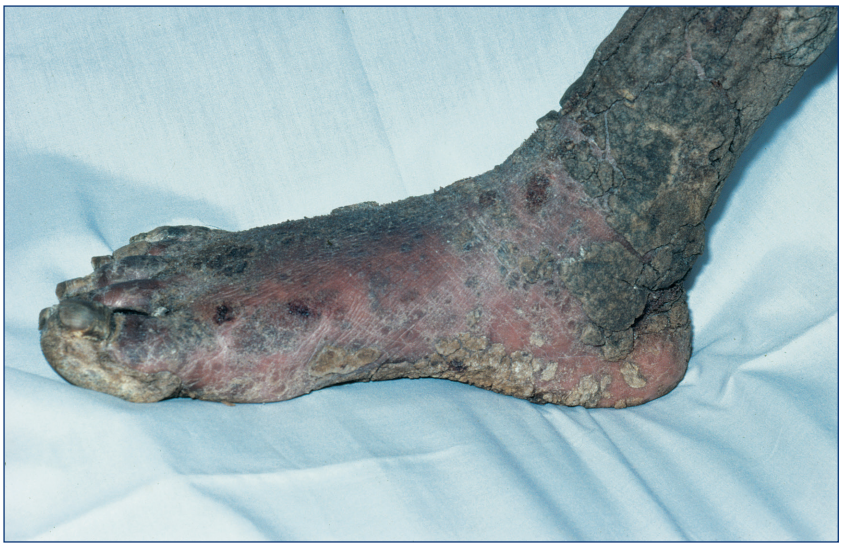

Fig.6: Hyperkeratotic psoriasis on the foot and lower leg in a patient with HIV infection
Photo: Barbara Leppard

Treatments

1. There is no cure for psoriasis. Treatment often works well in removing the scaling and even makes the plaques go away, but it may come back when the treatment is stopped.

2. Explain to the patient that psoriasis is not contagious and will not harm their general health.

3. Moisturisers, e.g., petroleum jelly (Vaseline), or Vaseline mixed 50:50 with liquid paraffin, applied twice daily. For many patients this will keep the skin soft and reduce the scaling. This is the only topical treatment that is safe to use in patients with erythrodermic psoriasis or generalised pustular psoriasis.

4. Sunlight is usually very helpful and is free. Tell the patient to expose the skin affected by psoriasis to the sun for half an hour/day.

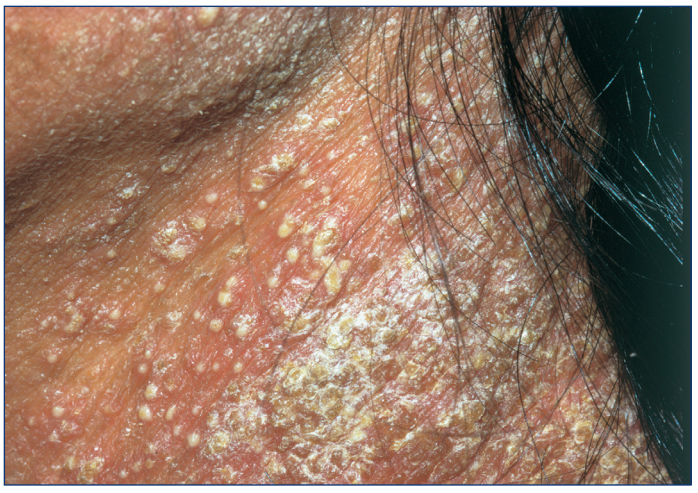

Fig. 4: Generalised pustular psoriasis
Photo: Barbara Leppard

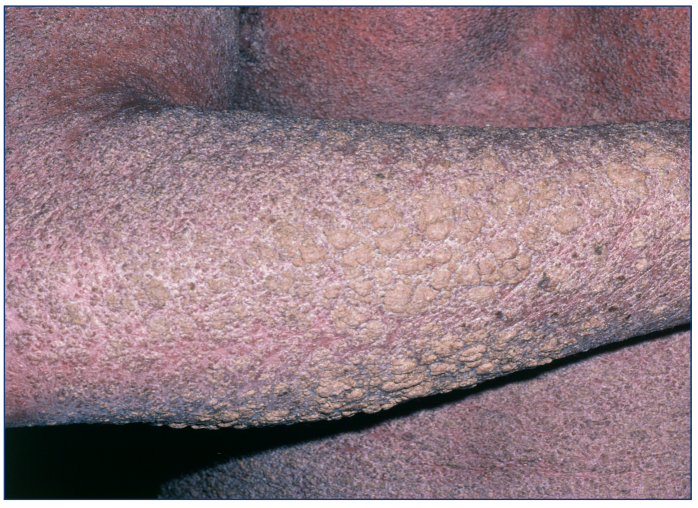

Fig. 5: Hyperkeratotic psoriasis on the arm in a patient with HIV infection
Photo: Barbara Leppard

5. Topical coal tar ointment works well on the body and on the scalp, but it is messy to use. Collect tar from the nearest road works and mix it with petroleum jelly (Vaseline), making a 3% or 5% ointment (3% is 3gm tar in 97gm Vaseline; 5% is 5gm tar in 95gm Vaseline). Apply either in the morning or at night, whichever is most convenient for the patient. Doing this and exposing the skin to the sun for half an hour/day works even better.

6. Vitamin D analogues (calcipotriol, calcitriol, tacalcitrol) and calcineurin inhibitors (tacrolimus, pimecrolimus) are much less messy than coal tar ointments but are very expensive. If available, they are applied twice daily.

7. Salicylic acid ointment 3-5%, applied twice a day can be useful for removing scale.

8. Topical corticosteroids should be avoided, if possible, but in many countries are the only form of treatment available. They have a rapid onset of action but their effectiveness diminishes with continued use and increasing amounts are required to give the same effect (tachyphylaxis*). When discontinued, the condition may recur with increased severity. Topical corticosteroids in combination with other topical agents, such as tar, vitamin D analogues or salicylic acid, increases their efficacy and reduces the potential for any adverse effects, including the risk of skin atrophy with long term use.

9. Methotrexate orally or by intramuscular injection. It should only be used in patients with severe disease, or those with moderate disease who have failed other treatments, and/or are very distressed by their extent of disease. It is given once a week only. Give a test dose of 5mg (2.5mg in the elderly and those with poor renal function), either orally or by intramuscular injection. Each week gradually increase the dose of methotrexate until you get to the dose that clears the skin. Do not go above 25mg/week.

**Tachyphylaxis: Rapidly decreasing response to a drug following administration of the initial doses*

Side effects of methotrexate

- It is teratogenic so should not be given to pregnant women, or women who might get pregnant.

- Bone marrow toxicity. Check a full blood count before starting treatment, then once a week for a month and then every 2-3 months. If the Hb, WBC or platelet count fall below the normal level, stop treatment until it recovers. If the MCV is > 100, reduce the dose.

- Fibrosis of the liver. Methotrexate should not be given to patients who drink alcohol or who have had hepatitis in the past. Check the liver enzymes at the same time as the full blood count.

- General malaise. It is common for the patient to feel generally unwell for 24-48 hours after a dose of methotrexate.

- Nausea, vomiting, diarrhoea and abdominal discomfort.

- Stomatitis and ulceration of the mouth.

Most side effects can be prevented by giving 5mg folic acid orally once a week, on a different day to the methotrexate. It seems to be quite safe to give methotrexate to patients with HIV/AIDS.

10. Systemic alternatives to methotrexate are cyclosporin (2.5-5mg/kg/day) or acetretin (10-75mg daily). These are much more expensive than methotrexate and have numerous side effects. If the patient needs these drugs they should only be given by a doctor who is familiar with them.

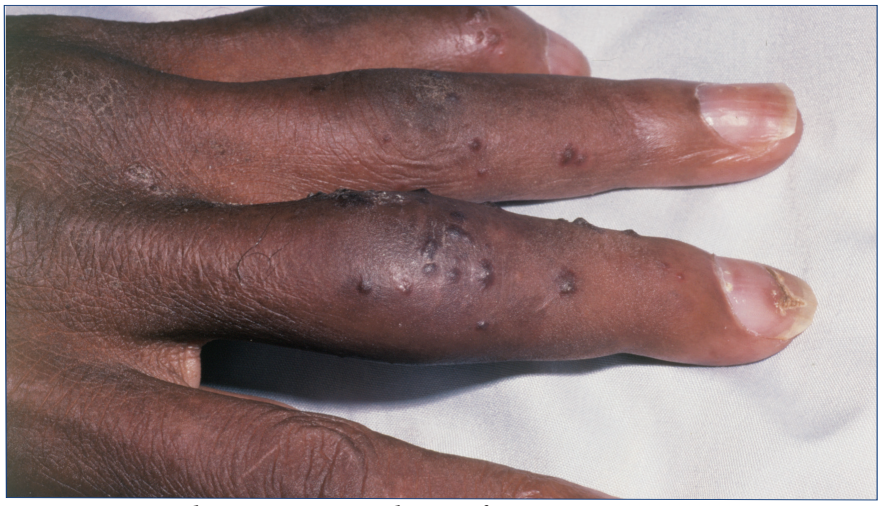

Fig. 7: Psoriatic arthritis in a patient with HIV infection

Photo: Barbara Leppard

AVOID SYSTEMIC STEROIDS AND POTENT TOPICAL STEROIDS IN PATIENTS WITH PSORIASIS

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WOUND-RELATED PAIN

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Introduction

Wounds referred to us are sometimes so spectacular that we are primarily tempted to find a solution how to dress them. Clinical questions regarding aetiology, size, healing capacity of the sometimes undernourished patient, as well as infection, become secondary. The patient's subjective experience and suffering of pain comes third. Wound pain is however a symptom that often forces the patient to seek care, and patients with leg ulcers regard it as the worst aspect of having an ulcer.[1,2] Up to 91% of venous leg ulcers (Figure 1) are sometimes painful; 75% of patients are disturbed by nightly pain and 30% regularly have pain intensity of 100 mm on a Visual Analogue Scale (VAS).[3] Eighty-three percent of patients with peripheral arterial disease have wound pain,[4] which can be extreme. Pain, sometimes excruciating, occurs in 46% of patients with pressure ulcers.[4,5] Forty-six percent of patients with diabetic foot ulcers are reported to have pain[4] which is described as sharp, stinging and most commonly of neuropathic origin. Burns are often painful; the onset of pain is an early and significant sign of infection in burns,[6] as well as in leg ulcers. In one Swedish unpublished study, the patients' wound pain also affected the nurses, who felt frustrated by not being able to alleviate the pain.

Pain can be continuous or vary over the day or night; it can be related to dressing changes or wound cleansing. It may be affected by elevation or dependency of the leg.

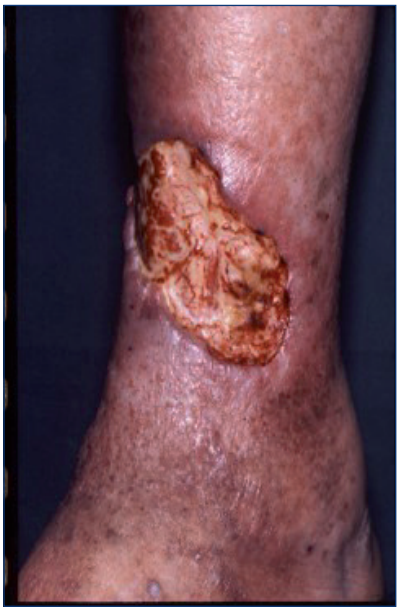

Fig.1: Leg ulcer; atrophie blanche and an ischaemic ulcer bed are the most painful combination

Photo: Terence J Ryan

Wound-related Pain

Some Causes of Wound Pain

- Continuous wound pain can be experienced in cases of micro-inflammatory processes as in vasculitis.

- Nightly pain in a leg ulcer often indicates peripheral arterial disease (PAD) due to the reduced perfusion when the leg is placed horizontally in bed.

- Excessive wound exudate, accumulated underneath the dress ing, may put pressure on the nerve endings and cause pain.

- Wound cleansing with cold liquids cause pain, whereas solu tions at body temperature alleviate pain.[5]

- Dressings, such as gauze, stick to the fragile wound bed and can cause pain upon removal.

- Some dressings, like honey and iodine, might cause stinging upon application. This pain often disappears after a short while.

- Underlying infection can be missed, and when pain occurs in pressure ulcers, osteitis (osteomyeltitis) should always be suspected.

Classification of Pain

Pain can be classified as:

- ***Nociceptive*** (tissue-related, common in wounds)
- ***Neuropathic*** (some diabetic foot ulcers are very painful)
- ***Neurogenic*** (caused by damage to peripheral and/or central nerve-system).

Nociceptive pain is caused by exposure of nerve-endings in the wound to environmental and inflammatory mediators such as bradykinin and histamine. The role of microgliae in the wound bed/ underlying tissue is under investigation. ***Neuropathic*** pain is often associated with diabetic foot ulcers. ***Neurogenic pain***, for example, may be associated with shingles (herpes zoster) or 'phantom pain' after amputation. Combinations of pain types are common in patients with wounds of long duration.

Pain Assessment

Wound pain assessment should follow a structured protocol .
At the World Union of Wound Healing Societies (WUWHS) Congress in Toronto, Canada, in June 2008, a wound pain assessment instrument was presented. The instrument has been developed by Helen Holinworthy (1995), revised by Wendy White and Christina Lindholm (2008) and tested and re-tested by numerous patients and nurses.

Some relevant questions to be raised include:

- ***Is the wound painful?***
- ***Where does it hurt? In the wound, wound edge or surrounding tissue?***
- ***When is the pain at its worst? Day/night/dressing change/ constantly?***
- ***Does the pain disturb sleep?***
- ***How intense is the pain at its worst? (use Visual Analogue Scale 0-100 mm) or Verbal Rating Scales***
- ***What relieves the pain?***
- ***Does the wound / surrounding tissue show signs of clinical infection?***
- ***Has the infection been treated systemically or locally?***
- ***Does pain fluctuate over time?***
- ***Have any systemic or topical analgesics been effective? If so, which?***

A Wound Assessment form as well as detailed handling plan is published in: Principles of Best Practice, Minimising Pain at Wound-related Procedures: 'Implementation of Pain Relieving Strategies', WUWHS 2008. The document can be downloaded free of charge. The website is www.wuwhs.com

Wound Pain - Handling Plan

The content of this consensus document can be summarised in 10 points:

- Identify and treat the cause of the chronic wound and address concerns expressed by the patient, including pain assessment at each visit

- Evaluate and document pain intensity and characteristics on a regular basis (before, during and after dressing changes)

- Cleanse the wound gently. Avoid the use of abrasive wipes and cold solutions

- Select an appropriate method of wound debridement and reduce the potential for causing wound-related pain

- Choose dressings that minimise trauma (pain during applica tion and removal)

- Treat infections that may cause wound-related pain and inhibit healing

- Treat local factors that may induce wound-related pain (e.g., inflammation, trauma, pressure, maceration)

- Select an appropriate dressing to minimise wound-related pain based on wear time, moisture balance, healing potential and maceration around the wound.

- Evaluate each patient´s need for pharmacological (topical/systemic agents) and non-pharmacological strategies to minimise wound-related pain

- Involve and empower patients to optimise pain management

Health care providers should ensure wound-related pain control for every patient.

Treatment of Wound Pain

The number one rule is to determine the type of pain and its causative factors, and to treat these:

- Treat clinical infection.

- If vasculitis is causing the pain, the pharmacological treatment of the disease must be addressed. Painful vasculitic leg ulcers respond particularly well to pinch graft procedures.[7]

• Ischaemic pain is worse during the night, and prevents the patient from elevating the leg into the bed. Cessation of smoking and vascular intervention must be considered.

• If patients with venous disease complain of pain, the degree of compression must be considered. Both oedema per se and inaccurate compression can cause pain.

• Nociceptive pain, related to tissue damage/inflammation is most commonly treated with anaesthetic creams like EMLA or Xylocaine. EMLA has a deeper penetration into the subcutaneous tissues and a longer effect, and it has been reported that up to 40 g can be applied without problems. Pain relief has also been reported by ibuprofen-impregnated dressings.[8] Sometimes, morphine gel applied topically can give satisfactory pain relief.[9]

• Systemic pain relief can be given with paracetamol and/or opioids. Codeine preparations can cause constipation in elderly patients.

• In neuropathic pain, tricyclic antidepressants (e.g., amitryptiline 10 mg) are reported to give good pain relief. The effect will not be immediate. The medication should be administered at bed-time.

• In some cases, anti-epileptics such as gabapentin have been reported to alleviate certain types of pain.

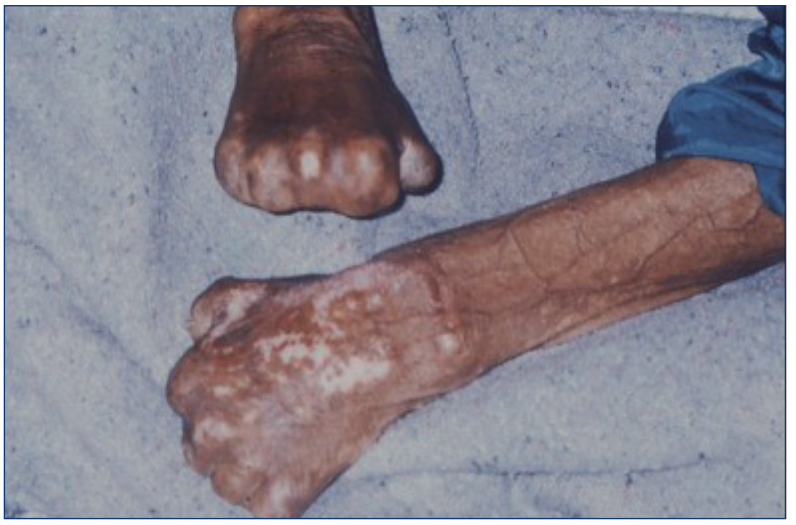

Fig.2: Loss of pain sensation leading to tissue destruction in leprosy
Photo: Terence J Ryan

Tropical Treatment of Painful Wounds

If available, use wound dressings which do not stick to the wound bed; soft silicone dressings are probably the most appropriate dressing. Hydrocolloids, hydrogels or honey dressings are other options. A few patients report a stinging sensation from honey dressings, but this is usually of short duration.

Numerous painful dressing changes can lead to hyperalgesia (increased pain). If the dressing change is very painful, give systemic analgesia beforehand.

Treatment of any wound infection is paramount. Often, this can be achieved by local treatment using dressings impregnated with honey, silver povidone iodine. Sometimes, systemic treatment with antibiotics is necessary.

Nursing Care

Listening to the patient, observing face expressions and parrying gestures (the hand held up 'against' discomfort) during dressing changes can give guidance regarding the patients level of pain. Distraction techniques like singing, playing the patient´s favourite music[10] or talking about subjects which are pleasant for the patient are available options. Children love stickers and other minor things as a reward for their courage at dressing changes. Anxiety reinforces the patient's pain.[11] A calm, concentrated and professional carer can have a soothing effect , and a relaxed patient can handle pain more easily.

Massaging other parts of the body, like the back or the toes, by an assistant has been successfully practised in some cases. It is most important to reassure the patient that his or her pain can be relieved, and that you will do your utmost to achieve an acceptable level of pain.

Remember that pain is there for a reason; without pain sensation, as in leprosy, we destroy ourselves (Figure 2).

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Regional Dermatology Training Centre Tanzania: Reports

Provided by Dr Barbara Leppard

Constraints Encountered by HIV/AIDS Counsellors

Charity Likasi in Zambia
Joseph Wakubwa in Kenya

Most countries in sub-Saharan Africa have a high prevalence of HIV/AIDS. In Zambia and Kenya the governments have a policy of training health care workers who will enlighten people about how the disease is acquired and how it can be prevented (counsellors). As well as education, their job involves supporting those who are infected and the people who care for them.

Country	Zambia	Kenya
No. of counsellors interviewed	42	84
Cadre of health care worker		
Nurses	57%	63%
Clinical Officers	29%	23%
Doctors	5%	5%
Others	9%	9%
Constraints encountered		
Pressure of work	88%	39%
Unco-operative clients	30%	43%
Lack of transport for follow-up visits	14%	
Lack of privacy	12%	30%
Inadequate training	12%	7%

Likasi and Wakubwa interviewed all HIV/AIDS counsellors in Lusaka, Zambia and Nakuru, Kenya who were available and asked them, by means of a questionnaire, if they experienced any constraints in doing their counselling work. The results are shown in the table below:

All the counsellors enjoyed their work but all experienced some frustration with how they were able to go about it. Being expected to do other work, as well as counselling, limited the number of clients the counsellors were able to see in a day to one (67%) or two (33%). Individuals who were unwilling to believe their test results, or unwilling to receive them, were classified as unco-operative. This was particularly a problem in Nakuru where many of the counsellors were younger than the clients they were counselling.

It is possible for patients with HIV/AIDS to live well if they are adequately counselled, but for this to happen, the counsellors must be thoroughly trained and they must have protected time to do this work, in a room where privacy can be assured.

Prevalence of Skin Disease in School Children Living in Police Barracks in Dar-es-Salaam

Hussein Yahaya

Skin diseases, particularly fungal infections and parasitic infestations, are known to be common in children in Africa. Yahaya went to the Kilwa Road Police Barracks in Dar-es-Salaam and examined all the school-age children living there for skin disease. These barracks house 600 families (3500 people of whom 2000 are children) in 448 homes. Over 200 of the homes are a single room, with a shared mat for sleeping and a communal toilet between homes. Unsurprisingly, he found that 53% of these children had skin disease and this was strongly associated with overcrowding (defined as four or more children sleeping in a 3x3 metre room) and with 2 or more children sharing a bed.

The Prevalence of Skin Disease in a Psychiatric Hospital in Lusaka

Chama Mulangala

There is only one psychiatric hospital in the whole of Zambia and this is situated in the capital, Lusaka. Mulangala examined all the in-patients in this hospital to see whether there were any specific skin conditions associated with psychiatric illness or the drugs used for treating them. He found that 72% of all in-patients had one or more skin diseases. These were mainly infections and infestations (scabies, tinea and pyoderma), nothing specifically to do with the underlying illness or its treatment. His recommendation to the hospital was that, since most of these diseases were treatable and / or preventable, skin disease should be particularly looked for and treated appropriately.

Journal Extracts

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WHO introduces Faster Tuberculosis Tests

(Anonymous)

BMJ 2008; **337**:14

This brief news item discusses the introduction of a new test to identify multidrug-resistant TB, which will be used in Lesotho, Ethiopia, the Côte d'Ivoire and Congo. It costs $5.20, and gives results in two days instead of the usual 2-3 months, so should be very important in choosing the correct treatment, as soon as possible.

Diagnosis of Tuberculosis

Systemic Review: T-cell-based assays for the diagnosis of latent tuberculosis infection: An update

Pai M, Zwerling A, Menzies D

Ann Intern Med 2008; **149**(3): 177-184

More on TB, in this case for diagnosis of infected patients. Tuberculin tests suffer from problems of false positive results (in vaccinated subjects) and false negatives (in immune-impaired, seriously ill or malnourished subjects). It is becoming clear that newer tests called interferon gamma release assays (IGRAs) are more sensitive and very specific. However, they are not widely available worldwide, and it is not clear how well they will perform if used for screening in high risk populations, such as those with HIV infection.

Pilgrimage and the Skin

Dermatologic challenges of pilgrimage

Mimesh S A, Al-Khenaizan S, Memish Z A

Clin Dermatol 2008; **26**(1): 52-61

This article describes skin problems seen during the annual Hajj in Saudi Arabia. This holy pilgrimage occurs at a time of high temperatures, and lasts for 3 weeks, with significant overcrowding. Skin diseases account for 5% of medical problems in the pilgrims and include the anticipated infections as well as bites, stings, dermatitis and other general dermatoses. Sunburn, miliaria and flare-up of pre-existing dermatoses are all quite common – this may partly be because 1.5 million of the 2.5 million pilgrims are from other countries and may not anticipate the heat and environmental challenge.

The Food Crisis and Clean Water

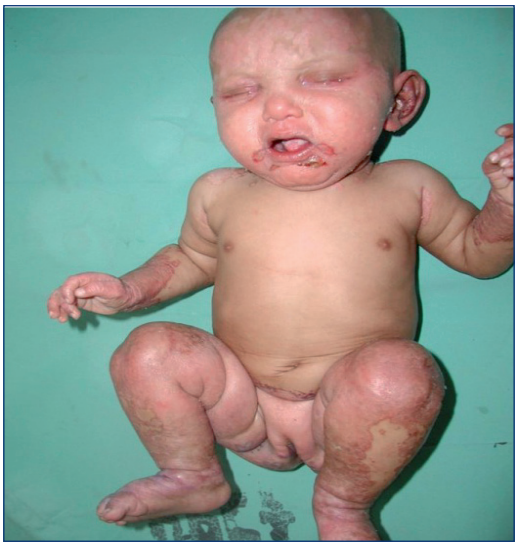
Is the food crisis eclipsing the importance of clean water?

Watts G

BMJ 2008; **337**: a604

This is a journalism article about the message that Water Aid (www.wateraid.org.uk) is making to leaders of the major industrialised countries. A few facts: a sixth of the world's population (1.1 billion people) have no access to clean water, and 40% of the world's population lack basic sanitation. In Africa, 40 billion working hours each year are spent each year fetching and carrying water, up to a quarter of each day for families in rural areas. Writers in *Community Dermatology* have previously stressed the importance of clean water for washing as an essential factor in skin health and reducing skin infections. It is also clear that lack of clean water has many other health implications as well. □

Clinical Conundrum Answers



ANSWERS:

1. Acrodermatitis enteropathica.

2. Zinc deficiency, due to specific malabsorption of zinc.

3. Stunted growth, decreased resistance to infections. The condition can be fatal within a few years.

4. Oral zinc (2mg/kg/day) is usually curative. It should be continued at least until adulthood.

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