Today's Treatment

Diseases of the Skin

Management of Eczema—II

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Steroids in Eczema

Judicious use of topical corticosteroids for their non-specific anti-inflammatory effect is central to the management of eczema, whatever its cause. Their effect is suppressive and if the cause of the eczema continues to operate over an indefinite period, topical therapy will have to be prolonged, bringing in its wake the now well-known hazards of such treatment.

The prescriber must choose his steroid and also the appropriate vehicle (ointment, cream, gel, or lotion). He should be guided by the intensity of the inflammation, its likely duration, and its site in choosing the steroid—and by the physical nature of the eczematous surface in selecting the vehicle. These points were discussed in detail by Dr. J. H. Hunter in the second article in this series (*British Medical Journal*, 17 November, p. 411)

CHOICE OF CORTICOSTEROID

It is convenient to think in terms of four potency levels of the available preparations. In ascending order of strength these are as follows:

Hydrocortisone

Hydrocortisone, 1% or even 0.5%, is the weakest, but may be quite adequate and effective in low-grade eczema. Its chief virtue is that it does not induce the serious local effects seen with its halogenated derivatives. It is appropriate, for instance, for chronic atopic eczema, pityriasis alba, or any facial eczema.

Low-potency Halogenated Corticosteroids

These are of low potency either because of the compounds chosen—example, Ultradil—or because of the concentration employed—example, Synandone, or Haelan. Many patients can be safely helped over long periods by these preparations, some of which can be sensibly and economically prescribed in large tubes (50g or 60g).

Standard Strength Compounds

Several standard strength compounds are available and (notwithstanding various claims to the contrary) the following are of roughly equal clinical effectiveness in eczema, in the concentrations at which they are presented: 0.1% triamcinolone acetonide (Adcortyl); 0.025% fluocinolone acetonide (Synalar); 0.1% betamethasone valerate (Betnovate); and 0.025% beclomethasone dipropionate (Propaderm).

The prescriber will make his own choice (as will often the patient), perhaps partly influenced by the considerable variations in price, but more by the patients' tolerance of the base of the chosen preparation.

Two more recent products are claimed to have particularly virtuous bases (Metosyn and Topilar) but in my view they have not added a significant new dimension to therapy.

High-potency Compounds

These are Propaderm Forte (0.5%); Synalar Forte (0.2%). Both of these preparations are presented in 5-g tubes, and are intended to be reserved for particularly resistant and localized conditions. They are occasionally of value in small but intractable areas of nummular eczema.

It is not yet clear where the new preparation clobetasol propionate, 0.05% (Dermovate) should be placed. In terms of potency, it should probably be placed with the last category, but, in offering it in 25-g and 100-g tubes, the manufacturers would clearly prefer it to be top of the second (standard) division. At present, it is probably best reserved for the most stubborn eczemas (as the manufacturer indicates) and, unless diluted, should not lightly be re-prescribed over long periods.

REMOVAL OF HYPERKERATOSIS

Especially on the palms, eczema may be appreciably hyperkeratotic. Control of the inflammation by topical corticosteroids may itself reduce epidermal thickening, especially if it is combined with occlusion. Zinc and salicylic acid paste *B.P.* (Lassar's paste) may be helpful, but higher concentrations of salicylic acid may be required; up to 6% can be incorporated in emulsifying ointment *B.P.*

CHOICE OF BASE (VEHICLE)

Most of the products mentioned are available as lotions, creams, and ointments. In brief, ointments are inappropriate on wet, exudative eczematous surfaces—as are lotions on dry, lichenified ones. Except on the scalp (where gels are useful), a lotion is rarely needed for more than two to three days, being then replaced by a cream or ointment. Creams are often more acceptable to the

patient in the domestic or working environment, but ointments are often more effective. Notwithstanding pharmacological theory, in practice trial and error often determine the best preparation. These aspects were discussed in Dr. J. Hunter's second article in the series.

DILUTION OF CORTICOSTEROID PREPARATIONS

Creams should not often be diluted as their stability, sterility, and ability to release the active agent may all be compromised. Topical cream may be diluted if the manufacturer's special base provided for this purpose is used (F.A.P.G. diluent).

The standard strength corticosteroid ointments (except Metosyn) may be safely diluted with soft white paraffin B.P. One-in-four or one-in-five dilutions allow adequate amounts of an effective ointment to be economically supplied, but the dilution can be reduced or even increased (example, to one-in-ten) as appropriate. The clinician should be guided by the principle of using the lowest strength of steroid adequate for its purpose.

INTRALESIONAL THERAPY

Direct injection of a steroid into a recalcitrant plaque of eczema may be useful if this manoeuvre is not overused. Adcortyl suspension (10 mg/ml) is usually given either by intradermal needle or (in the clinic) by Dermojet gun. The action may last for many weeks owing to the depot effect produced by the highly water-insoluble steroid in situ. It is not usual to employ these techniques unless topical therapy has failed.

PLACE OF POLYETHYLENE OCCLUSION

After steroid preparations have been applied to the skin, covering it with any material impermeable to water vapour (example, polyethylene) will enhance the penetration of the steroid through the epidermis by hydrating the stratum corneum and thus reducing the latter's barrier efficiency. Polyethylene gloves may be used for the hands and bags for the feet. This procedure potentiates the effects of the steroids, but the other effects of such hydration should be not forgotten. Firstly, the proliferation of the surface bacteria is promoted—so that if pathogenic staphylococci are present in the occluded area serious pyoderma may result. Secondly, enhancing the potency of the steroids implies a risk of correspondingly magnified side effects. Nevertheless, nocturnal occlusion may be very useful in non-infected intractable eczemas of the hands and feet, especially of the hyperkeratotic variety.

TOPICAL STEROID-ANTIBIOTIC COMBINATIONS

A "blunderbuss" approach to the topical treatment of eczema is rarely needed or rational. Infective retroauricular eczema in children (usually atopic), and the infective eczema not uncommonly seen about the toes in older boys—and more rarely on the hands in adults—are clear indications for steroid-antibiotic combinations. They may also be needed in seborrhoeic eczema. In older women acute intertrigo is often wrongly regarded as a pure monilial infection, but it may have bacterial and eczematous elements and, if so, usually responds to potassium permanganate compresses and vioform-hydrocortisone cream.

HOW MUCH TOPICAL MEDICAMENT SHOULD BE PRESCRIBED?

Correct choice of the medicament will be of little use to the

patient if the doctor prescribes him woefully inadequate amounts. Conversely his prescribing should not be wasteful. If large areas of skin require treatment twice daily, well-diluted preparations should be used (see above), but the amount must be adequate (example, steroid ointment 60g, soft white paraffin to 250g). Nevertheless, undiluted standard steroids are seldom needed in amounts larger than 30g.

Systemic Drugs in Eczema

Antibiotics, antihistamines, psychotropic drugs, and corticosteroids all have a place in some patients.

ANTIBIOTICS

The routine systemic use of antibiotics in any form of eczema is unnecessary, wasteful, and sometimes harmful. Secondary infection may be present, caused by *Staphylococcus aureus* or *Streptococcus pyogenes*. The need for an antibiotic is clear only in the following instances:

(1) When localized eczema is complicated by lymphangitis or cellulitis and tender regional lymphadenopathy.

Such infection may be assumed to be streptococcal and is usually seen with acute pompholyx eczema of the hands or an acute or chronic eczema of the feet. Less often it originates in hypostatic eczema associated with a gravitational ulcer. Potassium penicillin V is the drug of choice since *S. pyogenes* is always sensitive to it. If the patient is known to be allergic to penicillin, erythromycin is the best alternative.

In patients with recurring attacks of streptococcal cellulitis—associated, for instance, with a chronic endogenous eczema of the foot—long-term maintenance penicillin (potassium penicillin V, 250 mg, twice daily) may be indicated to prevent progressive lymphatic damage, increasing oedema, and reciprocal aggravation of the eczema itself.

Failure of acute lymphangitis to respond to adequate doses of penicillin may be puzzling and is generally attributable to mixed infection of the primary eczema with a penicillin-resistant *Staph. aureus*, whose penicillinase is gratuitously protecting the streptococcus: switching to flucloxacillin produces rapid resolution.

(2) When an eczema is complicated by painful folliculitis and "boils," which are making the patient "toxic." Such staphylococcal infection may sometimes be directly attributable to topical steroid therapy.

(3) In infected seborrhoeic eczema which is resistant to topical therapy.

(4) In acute infective "dermatitis" of the feet in older boys, usually seen about the toe clefts and dorsa of the feet near the bases of the great toes.

In all the above instances the sooner bacteriological culture and antibiotic sensitivity data are available the better—though the doctor should not wait for these before he starts treatment. Apart from the instances just described, the role of micro-organisms in eczema is controversial and here bacteriological information may only mislead.

ANTIHISTAMINES

As a specific remedy for the pruritus of eczema the antihistamines are disappointing. Nevertheless, in many patients they do reduce itching and are particularly valuable in atopic and nummular eczema; they may usefully be tried whenever the itching is severe and not easily controlled by topical treatment.

Compounds with a sedative action, such as promethazine and trimeprazine, are often the best but if necessary the doctor should be prepared to try others—for example, chlorpheniramine maleate.

PSYCHOTROPIC DRUGS

Psychotropic drugs have a place in atopic eczema and neuro-dermatitis and sometimes in nummular eczema. There is no accepted canon here, every dermatologist having his favourites. I use amylal, diazepam, or chlorthalidopoxide.

CORTICOSTEROIDS

Undoubtedly the corticosteroids are valuable weapons against fulminating eczema or other intractable and disabling forms. Their use can often be justified in the following instances:

(1) At the beginning of an acute attack of hand and foot pompholyx in a patient who has suffered previous fulminating attacks, associated with total disability as the extremities are "de-gloved": here treatment need last only a few weeks.

(2) In eczema which has evolved into generalized exfoliative dermatitis which is not settling spontaneously and is leading to potentially dangerous metabolic sequelae—for example, circulatory overload in an old person with heart disease.

(3) In the worst forms of intractable disabling endogenous eczema in adults as maintenance therapy. Patients with chronic eczema easily become steroid-dependent and maintenance treatment should not be started lightly.

(4) Rarely, for quick control of a severe contact eczema

(especially on the face) where the cause has been identified and withdrawn; treatment is necessary for only a few days.

In every eczematous patient the likely benefits of steroid therapy have to be weighed against the hazards, whose extent must depend on the patient's overall medical condition.

Prednisolone is the drug of choice and the dose depends on the clinical state. In very acute contact eczema 40 mg daily would be an appropriate starting dose for two to three days, reduced steadily to zero subsequently over seven to ten days. In severe bullous pompholyx, a similar starting dose can be reduced quickly to 20 mg, then more slowly to zero over three to six weeks. In generalized exfoliative dermatitis 30-40 mg daily may have to be maintained for one to two weeks to allow metabolic faults to be corrected before the dose is judiciously reduced to the minimum effective maintenance level.

In other forms of chronic intractable eczema it is unwise to begin treatment with such high doses, lest patients experience a degree of control which cannot safely be maintained: 20 mg daily for two to four weeks is usually appropriate, the dose then being reduced by 2.5 mg and later 1.0 mg to the threshold level of control; often daily doses of 5.0-8.0 mg will be adequate. Topical measures and oral antihistamines, etc. should be used vigorously to push the threshold dose as low as possible. The latter may then have to be maintained for years, during which regular supervision is mandatory. Occasionally prednisolone is badly tolerated and Synacthen depot may have a place.

Any Questions?

We publish below a selection of questions and answers of general interest

Activities for Subnormal Children

Is there any reason why educationally subnormal children should not take part in outdoor activities such as mountaineering or canoeing, assuming that they are completely supervised?

It is tricky enough looking after normal children who want to undertake mountaineering and canoeing, even with very skilled supervision. It would be more difficult still with educationally subnormal children, who obviously could not understand so well the inherent dangers. Moreover, if they did come to grief or some accident occurred their understanding and co-operation would necessarily be limited. I think educationally subnormal children should be encouraged to take part in outdoor activities, but I would be rather frightened to suggest that these should be unlimited and that mountaineering or canoeing, with their very real dangers, should be included in any routine plan without extraordinary precautionary measures being taken.

Paracetamol Toxicity

What is the toxicity of paracetamol? Has it any phenacetin-like toxic properties, and are there any clinical contraindications to its continued use?

Paracetamol is a mild analgesic and like aspirin it is at present freely available without prescription. Paracetamol is the major metabolic product of phenacetin and it is probably responsible for the analgesic action of phenacetin. The main advantage of paracetamol over aspirin is that it does not cause gastric irritation and gastrointestinal bleeding. For this reason

it is promoted as a safe analgesic. It is undoubtedly safer than aspirin for those who suffer from dyspepsia, whether this is known to be associated with peptic ulceration or not. Toxic effects from paracetamol are rare. Unlike phenacetin it does not cause methaemoglobinaemia, and other haematological disturbances such as thrombocytopenia and agranulocytosis are extremely rare. The question whether prolonged use of paracetamol alone will result in analgesic nephropathy is still unanswered. Some studies have suggested that prolonged use of paracetamol does not impair renal function¹ and though there have been a few reported cases of analgesic nephropathy attributed to paracetamol in most of them there is at least a possibility that other analgesics were involved.

The dangers of overdose from either accidental or deliberate ingestion of a large number of tablets of paracetamol are at least as great if not greater than those from aspirin. The main hazard is hepatic necrosis, which is frequently fatal and for which at present no effective form of treatment is available. An adult who takes 50 tablets of aspirin will suffer from acute salicylate intoxication but if promptly and correctly treated he will probably recover. Whereas if he swallows 50 tablets of paracetamol he may have no immediate effects but within a few days he may be severely ill with hepatic failure and may well die. For most people aspirin probably remains the most suitable analgesic for occasional use, but for any patient with dyspepsia or who cannot tolerate aspirin paracetamol is a reasonably safe alternative. Proprietary preparations containing mixtures of analgesics, particularly those with phenacetin or caffeine, should be avoided because of their tendency to lead to habit formation and the analgesic abuse syndrome.

¹ Edwards, O. M., Edwards, P., Huskisson, E. C., and Taylor, R. T., *British Medical Journal*, 1971, 2, 87.