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CLINICAL ARTICLES

ACTINIC RETICULOID*

by

I. A. MAGNUS**

One of the most important problems to solve in the photodermatoses, the skin diseases apparently caused by light, is their proper classification. As we know so little of the underlying mechanisms, all attempts must remain provisional. Thc recent suggestion, the separation of a "new" syndrome, so-called actinic reticuloid is to some extent, I believe, tentative (Ive et al., 1969). Patients with this kind of clinical picture have been seen in several parts of the world, and when further experience has been obtained we will be in a better position to determine whether it is an entity.

The photodermatoses that are generally accepted as entities may be listed as below, but it is to be noted that the list is partly aetiological, partly clinical, which is undesirable.

1. *Metabolic:* the most important are the porphyrias, only too well known to dermatologists. Very rare conditions such as Hartnup Disease and Hydroa Vacciniforme (associated with aminoaciduria) may also be considered metabolic.

2. *Industrial & Cosmetic*: here the dermtosis is due to external contact with photosensitizer. These are well recognized in India and include substances containing furocoumarins and benzenoids. In some instances, such as with germicides of the halogenated salicylanilide type, light may possibly degrade the photosensitizer into a product that causes ordinary epidermal sensitivity of the contact dermatitis type (Kalivas, 1969).

3. *Internal medication*: certain antibiotics and sulphonamides, or chemical relatives of sulphonamides, are of importance here (Kalivas, 1969).

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**Head, Department of Photobiology, Institute of Dermatology, London.

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4. *Polymorphic light eruption*: This is a well known syndrome of unknown aetiology that has the following features. The sexes are about equally affected, onset may be at any age, the duration is prolonged, photosensitivity is confined to shorter wave UV i. e. about 300 nm. The lesions are diffusely distributed on sun exposed areas and regularly associated with solar exposure. Complete clearing of lesions in the winter is to be expected. Treatment with light barrier preparations is effective. The morphology of the lesions is erythematopapular and eczematous and the histology generally banal.

5. *Hutchinson's Summer Prurigo*: In the writer's view this is not so clearly a characterized condition as the above and, in some instances, may undoubtedly be confused with it. It is of unknown cause, twice as common in females as males, starts early in life and sometimes tends to undergo spontaneous clearing. Many patients do not connect solar exposure with onset of lesions. In about half of the patients that there is a phtodermatosis is a matter for debate. Uncovered skin areas are predominately affected but lesions on the buttocks are present in about a quarter of our patients. Complete clearance of lesions does not usually occur in the winter. Treatment seems to be completely ineffective. The lesions are discrete, grouped and pruriginous in morphology. There is no especially characteristic histology, except that of lichenified eczema. The present author regards the condition as a clinical picture arising from more than one cause, i. e. aetiologically heterogeneous.

6. *Solar Urticaria.* This is a clinical picture of largely unknown mechanism, but occasionally is a symptom of porphyria, especially erythropoietic protoporphyria. In the latter case 400nm will be the chief wavelength provoking lesions. In the absence of porphyria a variety of different action spectra may be found. About half the patients with solar urticaria also have the signs and symptoms of polymorphic light eruption, i.e. a papular-vesicular eruption (Ive et al., 1965).

7. *Exacerbation or precipitation of usually non-photosensitive dermatoses*: Some cases of atopic dermatitis, psoriasis, seborrhoeic dermatitis and Darier's disease are aggravated by sunlight. Erythema multiforme and herpes simplex appear sometimes to be similarly precipitated. Other canditions such as lichen planus and porokeratosis are also very well known to be provoked by sunlight and the actinic types are generally considered to constitute quite clear clinical variants.

ACTINIC RETICULOID

To this list we now propose to add this new title. It describes a severe persistent dermatosis occurring in men in later life. Most patients show the fully developed picture when they are 50 to 60 years old, but skin symptoms of varying severity may have been present for many years. The essential morphology is that of severe lichenified erythemato papular dermatosis with nodular pruriginous features and, in many cases, plaques, papules and thickening (charact

eristically of the forehead) suspiciously like mycosis fungoides (See Fig.. 1). The dermatosis affects the exposed areas mostly but its distribution under the chin and on the eyelids does not bring to mind a typical photodermatosis. However lesions on the hands may show striking interdigital sparing and the deep body flexures are not affected. Severe episodes of erythroderma are characteristic; almost the whole body surface is usually affected at some time or other, though to a lesser degree than the exposed sites.

On testing the skin with light, all patients show abnormal reactions of the erythemato-oedematous type to long wave UV, typically after only a relatively small dose, e. g. about one Joule/cm^2 at 360nm. The majority of the patients are also abnormally photosensitive to either sunburn UV or to part or all of the visible spectrum. The wide wavebands that are usually active are an important part of the clinical syndrome and lead to many difficulties in patient management. Obviously all patients are very sensitive to sunlight, as sunlight is very rich in long wave UV, but many are also sensitive to artificial lighting, especially of the fluorescent tube type (Brown et al. 1969). In spite of this it must be emphasized that many patients, inlcuding their medical advisers, and even the dermatologist, may overlook the fact that photosensitivity is present.

The histological picture in actinic reticuloid is in many patients suspicious of mycosis fungoides. There is a pronounced pleomorphic cellular infiltrate of the dermis, the predominant components being reticulum cells, and lymphocytes. Giant cells, eosinophils and other cells undergoing mitosis may be occasionally seen. The infiltrate in some regions is band-like, partly resembling lichen planus, but at other places commonly extends to some depth (See Fig. 2). It may also show apparent attempts at invasion of the epidermis (See Fig 3). Abnormal lymphocytes with heavily stained. crenated or indented nuclei are seen (See Fig.4). It should be noted, however, that more than one biopsy is frequently required before one can come to a provisional histological diagnosis.

The treatment of actinic reticulosis is most unsatisfactory. For instance the response to antibiotics, methotrexate, and steroids (local or oral) and to radiotherapy is poor or entirely lacking. Nursing in the dark leads to improvement after one or two weeks, but some relapse on return to an ordinary lighting environment is to be expected.

The diagnosis of actinic reticulosis depends on the clinical, photobiological and histological criteria outlined. Many patients, however, show an incomplete picture for some time before the full syndrome develops, and careful, continued observetion may be necessary. The differential diagnosis is chiefly from mycosis fungoides, other severe widespread chronic erythemato papular dermatoses of various aetiology, and other severe photodermatoses. In respect of the last, actinic reticuloid has no clinical resemblance to the porphyrias and is in any case readily differentiated by its biochemical fiindings. Cases of polymorphic light eruption may in theory cause difficulty, but the active wavelengths in this disease are in the

sunburn spectrum only, it affects females and a wide age group, it is an altogethre much less severe condition that usually responds fo symptomatic treatment and it has a trivial histological picture. Actinic reticuloid must also be separated from severe cases of photodermatoses due to external applications such as the salicylanilide germicides. There the disease is much less chronic, it will clear in a short time or at most a few months if the causative chemical is found and removed, it does not show the wide action spectrum for photosensitivity, unless the offending germicide is applied to the skin to be test irradiated. Obviously both sexes and a wide age group are susceptible in photosensitivity due to materials such as germicides; this is in strong contrast to actinic reticuloid. Similarly, in photodermatoses due to external agents, photopatch tests will be positive, but this does not obtain with actinic reticuloid.

The course and prognosis of this condition is yet to be determined. In the original series in England, several developed severe depression and 5 attempted sucide, though only one with a fatal outcome. Several patients have died of cardiovascular disease, to be expected in this age group, but unfortunately only two have come to adequate post mortem. In neither was there any suggestion of systemic spread; this applies also to our other patients who are still under observation However, in a patient that seems to have this disease, under the care of Dr. I. B. Sneddon, there is evidence of spread to regional lymph glands.

Actinic reticuloid is a disease many dermatologists in several parts of the world have seen from time to time. Since Ive et al (1969) published their first 10 cases, several have appeared in the French literature. I have seen cases in Eastern Europe and in the USA where some were in Negroes. What further experience will show in characterizing this condition, when more cases are collected, is eagerly awaited.

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Figures 2 & 3 are from Ive et al. (1969) Br. J. Derm. 81, 469 and are published through the courtesy of the Editor. Dr. E. Wilson Jones very kindly helped and advised with selecting the histological illustrations.

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