CUTANEOUS SYNDROMES DUE TO VARIOUS COSMETICS

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DERMATITIS DUE to sensitivity to external contacts, so-called dermatitis venenata or contact dermatitis, seems to be becoming more common, both in numbers and in severity. This is perhaps to be expected, in view of the continued increase in the number of preparations containing both new types and newer combinations of chemicals. The characteristic manifestation of the somewhat unusual sensitivity to a cosmetic is a dermatitis or patch of localised erythema and œdema at the site of application. The cosmetic factor then has to be considered in the differential diagnosis, in a case of suspected contact dermatitis, especially if on the face, dorsa of the hands, or the scalp, and more so if in a woman, as so many of the different cosmetic preparations are used almost exclusively by the female sex. The physician and the chemist who devotes his energy and skill to the manufacture of cosmetics have a common interest in this subject, the former to detect evidence of sensitivity to such a preparation and the latter to keep the index of sensitivity as low as possible. That this index of sensitivity is remarkably low, in view of the legion of preparations used by so many people, is well known. With the introduction of newer preparations and newer chemical combinations, however, this perspective has to be continually evaluated.

The clinical description of the usual contact dermatitis syndrome and the vast number of possible specific agents are well illustrated in a number of textbooks.[2,3,4,5] Dr. Austin Smith has pointed out[1] the possibility of inhalant irritation and toxin absorption of certain toilet preparations and cosmetics. The list of the various types of cosmetic to be considered is very long. As the chemical constituents are quite well known to the workers in this field, only a few of the more bizarre manifestations will be cited in this paper. The list itself includes the dyes, perfumes, deodorants, antihydrotics, depilatories, creams of many types, lipsticks, face packs, wrinkle removers, rouges, nail polishes and bases, cuticle removers, wave sets, bleaches, brilliantine, mascara, sunburn preventives, leg paints, hair tonics, hair curlers, hair

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straighteners, wigs, lacquer on costume jewellery and hairpins, and manicure preparations. Soaps and detergents are probably in this category, as well as dentifrices.

The detergent problem is one which calls for especial attention because clinical observations of many such cases seem to support the view that there are a goodly number of detergents which have a relatively high sensitivity index. This brings out the value of the patch test as a confirmatory test in attempting to evaluate the etiological importance of all types of cutaneous sensitisers.

Concerning Patch Tests

The patch test is an attempt to produce the dermatitis in miniature. It is usually employed to demonstrate the presence or absence of skin hypersensitivity of the eczematous type. To prove that a skin is hypersensitive, it must be demonstrated that any reaction produced in the case under study will not be obtained by the identical substance in the same identical concentration, when applied in a similar fashion to a normal or non-sensitive skin. It is obvious that the exact duplication of all aspects of natural environment cannot be secured in many occupational skin diseases of a possible contact nature. The performance and technique of the patch test are well known in this group. The patch test interpretation must be judged, of course, on the clinical picture and local findings beneath the test. It is a confirmatory test of marked importance when properly performed and expertly evaluated.

As Sulzberger[4] points out, the patch test can produce untoward effects, both local and general. He emphasises that there are six obligatory precautions to be taken to avoid local damage: (1) Never test a case unless the indication is clear-cut; avoid all useless testing. (2) Use only substances and concentrations of which you are certain as to the effects. Be sure that the concentration employed does not act as a primary irritant. Test yourself, or your associates, if necessary with new substances. (3) Avoid applying tests in even the established, normally permissible concentrations whenever exceptional degrees of sensitivity are apparent or suspected; in such cases, perform preliminary trial tests with dilutions much lower than normal. (4) Warn the patient to remove the test application immediately, in the event of severe discomfort or pain. (5) If at all possible, avoid all testing during the active phase of an acute eruption. (6) Never test a site in which an ensuing cosmetic defect may be extremely disagreeable to the patient.

Sensitivity to Nail Lacquers

One of the most pronounced reactions to hypersensitivity in recent years has been the change in nails due to certain nail undercoats, which apparently contain artificial resins. The ungual and subungual changes have taken the form of brownish-black discoloration of the

nail bed, separation of the nails and hyperkeratotic changes. Unless these nail dyscrasias became infected with fungi or bacteria, the nails returned to normal in several months' time when the use of the preparation was discontinued. Usually there have been only very mild, if any, subjective symptoms—occasionally tenderness and pain—and the glabrous skin around the nails has not been affected.

Detergents and Dentifrices

Some of the new detergents have produced very evident nail changes, usually consisting of a marked transverse ridging and some breaking of distal portions. An interesting case of this type was one where a newly married man helped with the family washing on Saturday mornings.

Certainly recently introduced dentifrices have produced quite a number of cases of cheilitis and stomatitis in the mouth.

Some Other Examples

One of the more bizarre manifestations in recent years has been the areas of de-pigmentation or leukoderma that have occurred in the skin where synthetic rubber has been used, e.g., in gloves and in some armpit pads. It was found to be due to an antioxidant added to the rubber to improve its ageing properties. This antioxidant was said to be the monobenzyl ether of hydroquinone.

Recently a new lacquer type of permanent wave solution has produced areas of baldness—alopecia—in the scalp, as observed by Reiches and Lane.[6] On the glabrous skin, sensitisation from the permanent wave process is more apt to be due to perfumes, gums and resins used in the waving solution rather than the cold wave solution itself. Anderson[7] has recently reported several cases of a curious type of alopecia, or scalp baldness, due to a caustic preparation for hair straightening. Sometimes there are concomitant areas of de-pigmentation on the forehead.

A serious hazard in some cases of contact dermatitis in people who are unusually hypersensitive is the widespread dissemination of the dermatitis from the original area, to involve large segments of the cutaneous surfaces. One case recently observed was that of a young man who had used a hair dye which had caused a marked œdematous eruption on his scalp and had thence spread to involve practically the whole body—so-called exfoliative dermatitis. These types of cases can be serious because of the possible complication of pneumonia. The hospitalisation time has, however, been decreased a great deal because of the ACTH treatment and the use of the antihistaminics.

The serious possibility of toxic inhalation has been mentioned. As a rule, there are very few such hazards, but a case has been recently reported by Simeone and Hardy[8] of chronic progressive infectious gangrene in a hairdresser who had been

exposed to a cold wave solution for three years. She had shown no signs of toxicity except that the finger-tips became sore after she applied the solution. For two years she had shown an unusual susceptibility to infection. The causal relationship between the gangrene and previous prolonged exposure to a cold wave solution was not fully established, but a relationship can be considered within the realms of possibility.

Thallium acetate was used for several years to produce a loss of facial hirsutes. More recently it has been tried in an attempt to cause a scalp alopecia where the hair was infected with ringworm. It was taken internally according to an exact measured dosage for the age and weight of the infected child. There were severe constitutional reactions and its usage was discontinued. In using it in a cream to be applied to the areas on the face with excessive hypertrichosis, the absorption caused the loss of hair elsewhere (especially on the scalp) and naturally produced internal toxicity, such as extensive neuritis. Incidentally, the hair did not fall out on the facial areas to which the cream was applied. These facts may well be of interest to cosmetic chemists, though I fully realise that thallium acetate has not been used in any sort of cosmetic preparation for very many years.

Dermatitis Medicamentosa

Dermatitis medicamentosa is the term used to denote cutaneous eruptions appearing from a sensitivity to a drug taken by oral administration. Several cases have been observed recently where dexedrine sulphate was taken for reduction of obesity.

I would conclude by saying that the very wide demand for cosmetic preparations (some of which may well have value as therapeutic aids) makes it most desirable that their composition should be formulated and perfected, by the cosmetic chemist, in such a way as to keep their index of sensitivity as low as possible.

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