

KNOWLEDGE FROM WORLD CONTEMPORARIES

Relationship between Dermatoses and General Physical condition

By

SIGEO OFUZI,

(Jap. J. of Derm: 69: 117)

The relationship between the localized pyogenic infection and several dermatoses was studied and results were summarized as follows.

I) Autosensitization Dermatitis

Staphylococci, especially hemolytic staphylococcus, was remarkably increased in the primary lesion, but the secondary lesion and blood culture, did not show staphylococcus. The patch-test by Storck's method using pyogenic staphylococcus in Bouillon culture, its culture filtrate and its bacterial extract (the water-soluble substance of bacteria ground by ball mill) was performed. In this series patch test, only the bacterial extract has shown remarkably higher percentage of the positive reaction than control (healthy skin and contact dermatitis). In the patch-test with the bacterial extracts, the effective element was found in protein fraction. By means of radioautography, using ^{131}I labell, the protein was found in the epidermis on which the patch-test was performed. By subcutaneous or intracutaneous injection of bacterial extracts, exacerbation of symptoms was found in 10 cases out of 20 cases of autosensitization dermatitis, and by the irradiation of ultrashortwave to primary lesion, the exacerbation of symptom was found in 2 cases out of 12 cases of autosensitization dermatitis. From these results, it was assumed that the bacterial component of staphylococcus, especially protein fraction, played an important role as allergen, although it was not clear that the bacterial component was alone or combining with skin tissue.

II) Pustulosis Palmaris et Plantaris

The infective focus in tonsils or teeth was found in higher proportion in this disease than in control. By subcutaneous injection of bacterial extracts of streptococcus hemolyticus the exacerbation of symptom was observed in 11 cases out of 42 cases of this disease, and by the provocation test with ultrashortwaves to foci the exacerbation, increase of leucocytes in blood and acceleration of erythrocyte sedimentation rate, was found in 3 cases out of 20, 4 out of 20, and 2 out of 15 respectively. Improvement was found in 14 cases within 26 cases. In patients who showed the exacerbation of symptoms by the injection of streptococcus extracts, the removing of the foci showed the favorable effects in 81%, and in the other cases, this procedure was found favorable only in 35%. In this disease, it was assumed that streptococcus hemolyticus in infective foci had an etiologic relation but its antigenity was not clear.

III) When the injection of the staphylococcal extracts was performed in 40 cases of weeping eczema, the exacerbation of symptom was found in 8 cases. All of these 8 cases had disseminated or confluent vesicles or vesico-papules repeatedly on some part of the body over one year. 4 cases out of 5 of this disease were cured by the removing of the infective foci in tonsils or teeth. The positive reaction of the provocation test of ultrashortwave irradiation was found in only 2 cases of them.

IV) Among 49 cases of chronic urticaria which continued one year and had not any relation of foods and 8 cases of erythema multiforme which continued over few months, 7 and 3 cases were cured respectively by the removing of infective foci. And the positive reaction of the provocation test by ultrashortwave irradiation was found only in a few cases. No relationship between the intracutaneous reaction by bacterial extracts of staphylococcus and the effectiveness by removing of foci was found to exist.

STUDIES ON ITCHING

by

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(Jap. J. Derm. 69: 119)

Clinical itching, accompanied by diseases of the skin, is produced by internal or external itch-producing stimulus. It is necessary in this case that there should be, to more or less extent, excitability, that is, the function of the nervous system to be excited when it receives stimulus, and it goes without saying that there is no itching excitation where there is no itch-producing stimulus.

As for the itch-receptors, the results of our detailed experimental and histological researches also confirmed the observation that they are free endings of the fine non-myelinated pain-fibres in and approaching the epidermis. As a consequence, we support the view that itching sensation is evoked by sub-threshold stimulus of pain, and we are interested in the so-called C-fiber theory.

Itch-producing stimuli can be classified into physical stimulus, chemical stimulus and the summation of the both stimuli. When chemical substances in the skin produce itching, they may be called itch-producing substances. And either their direct stimulation to the itch-receptor or some biochemical change of them in the skin can become etiological factor of itching sensation.

Itch-producing substances are considered to involve numerous kinds. Both metabolites such as amino-acids, peptides, proteins, proteinases, ribonucleic acids, uric acid and glycogen, whose itch-producing ability has been discovered by us since about 10 years ago, and histamine and acetylcholin, which were already demonstrated to have this ability, are included in itch-producing substances. They respectively act as chemical itch-producing stimulus in various der-

matoses with itching. And the greater the number of their kinds, the more remarkable the synergic action among them in itch-causing, so that even a minute concentration of each substance may evoke itching.

The so-called itchy skin is interpreted variously according to researchers. We consider that it should appropriately mean "condition tending to evoke itching". It denotes the state in which the itch-receptor is subject to sub-threshold stimulus of itching, insufficient to evoke spontaneous itching. If in this case a minute supplement of stimulus can get as high as the threshold, itching sensation will be produced.

Spontaneous itching in eczema-group is evoked by synergic actions of various itch-producing metabolic substances of proteins which are formed in allergic dermatitis. The state corresponding to itchy skin, which is observed after the disappearance of the above mentioned spontaneous itching, means the condition tending to evoke itching, in which chemical and physical stimuli lower than the itch-threshold are present about the receptors. This itchy skin can therefore either to the direction of improvement or exacerbation.

Itching in urticaria is produced by direct itch-causing stimulus of histamine or histamine-like substances, which are released as the result of allergic reaction in the skin. However, physical stimulus of exudation caused by the same substance can not make the direct cause of itching sensation.

In the case of vesiculous or bullous eruptions with itching such as dermatitis herpetiformis duhring, jemmigoid, herpes gestationis, etc., spontaneous itching develops until each eruption is completed, but it generally abates after the completion,

When a solution of any itch-producing substance is injected into a bullous eruption after removal of its fluid content itching develops again. It is consequently known that after the completion of the eruption, the itch-producing substances are diluted under the itch-threshold.

Pruritus cutaneus, primarily unaccompanied by lesional changes, is generally assumed to be caused by respective metabolites resulting from diseased state of some organs. When this endogenous factor is co-operated by exogenous physical stimulus, the development of pruritus becomes easier.

MUCO-CUTANEO-OCULAR SYNDROME*

by

BASUKE ITO,

(Jap. J. of Derm. 69: 128)

Researches on the etiology of so-called muco-cutaneo-ocular syndrome (abbreviated as m.c.o.s.), especially the research of virus is now under progress and it is no doubt that it is helping in a great deal for better understanding of etio-pathology of m.c.o.s. and its classification. Its precise good results are to be expected. On the other hand, look-

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nosis, etio-pathogenesis and classification of this syndrome. Therefore we are taught that there is confusion on this point which we cannot ignore at the clinical aspect of the cases of m.c.o.s and the report on it which is recently on increase trend, there are still un-unity and difference in opinions of national and foreign scholastics concerning diagnosis. It is the reason why we are made to think the speciality and the importance of so-called m.c.o.s. etio-pathogenesis classification problem. Because of this present situation we planned this research in a hope to contribute to the research of this problem from the point of view of comparative dermatology.

1. In order to provide a material to etio-pathogenesis classification problem from the point of view of comparative dermatology, we carried out clinical and histo-pathological study on so-called m.c.o.s. and its allied states.

2. By the clinical observation on m.c.o.s. it is possible to classify it into three types, acute, chronic, and intermediate. *Syndroma mucocutaneo-oculare acutum*, Fuchs (Proppe) belongs to the acute type and Gilbert-Behcet's syndrome belongs to the chronic type according to our classification. From the point of view of comparative pathology, it is desired to add chronic recurrent aphthous disease, erythema multiforme etc. as allied states of acute and chronic types:

3. About the relation between acute type (m.c.o.s.) erythema multiforme, it is difficult at the present standard to settle the relationship between them from the clinical point of view, for there is borderline form between the two. Therefore this problem depends on the success of the future research especially the future etiological research.

4. We reported 15 cases of Gilbert-Behcet's syndrome. We added hypersensitivity of the skin, L.E. phenomenon like phenomenon, and result obtained from comparative histo-pathological (and histochemical) observation.

5. There is a possibility of future alteration in nomenclature and conception of so-called m.c.o.s. because of decision of etiology of the syndrome. But at the present standard of knowledge of clinical aspect we still hesitate to give a definite position as an independent entity to the syndrome.

ON THE PROBLEM OF COSMETICS IN THE FIELD OF DERMATOLOGY

by

TOSHIO NAKAMURA,
(*Jap. J. of Derm.* 69: 129)

The problem of cosmetics should be treated in the field of esthetic dermatology. Cosmetics should always make skin beautiful. From such viewpoint, studies were performed on the following four items:

(1) Cosmetic cream and ointment:

Cold cream, cleansing cream and vanishing cream which did not contain any perfume were applied to the guinea-pigs and histological studies were performed. The effect of the cold cream and cleansing cream (w/o type) on the skin was more prominent than that of vanishing cream (o/w type). The changes of the skin appeared first on the fifth day by the successive application of the cream and reached the peak about three weeks later. The changes of the epidermis were mostly the swelling of the horny layer, hypertrophy and proliferation of prickle cells, hypertrophy of nuclei, and the fact that nuclei, became round and clear, and the broadening of interspace between prickle cells suggested the increase of the quantity of water in the epidermis. The changes of the dermis appeared a little later than those of the epidermis and were the hypertrophy or swelling of collagen fibres, the increase of water in quantity in the ground substance, dilatation of vessels and hypertrophy of sebaceous glands. Those changes of the skin did not proceed so far more than three weeks in spite of the application of the cream and rather had the tendency to subside. The effect of hydrophilic ointment, polyethylene-glycol ointment and lanolin to the skin was slight. It seems that the stagnation of the effect of the topical treatment of skin diseases using the ointment may be partly explained by those findings on the changes of the skin when cream is applied.

(2) Treatment of senile degeneration of the skin:

In order to keep or make the skin soft, elastic, and smooth, and to regain the youthfulness by giving the skin tension and elasticity, estrogen, progesterone, pregnenolone, nicotinamide, chondroitin sulphuric acid, heparinoid, placental serum and plasma were topically applied and at the same time massage was also performed. Such treatment was found effective in all cases. Pregnenolone cream was particularly effective. Wrinkle almost disappeared by the daily application of pregnenolone cream for three weeks and the youthfulness could be remarkably expressed. According to the results obtained by the animal experiments, seems that the increase of the water content in both epidermis and dermis and the increase of circulatory blood in the dermis may play some important role in producing the above-mentioned effects.

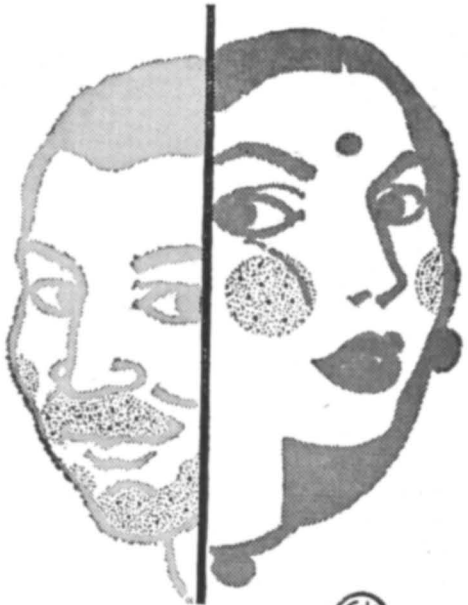
(3) Color of the skin:

In bleaching the skin, ammoniated mercury and P.M.H. (2-hydroxy-2'-phenylmercury-hydroxyl 3,5,6,3',5',6' hexachloro-diphenylmethane) are effective. Using these agents, it takes generally 1 to 7 months to bleach the skin. The mechanism of the action of these agents may be explained by the theory that copper of active tyrosinase is substituted by mercury and tyrosinase becomes inactive. The Redness of the skin due to telangiectasia should be treated by electrolysis. To treat white hair, the injection of vitamin B₂ and the topical application of vitamin A ointment are recommended.

(4) Cosmetics: The unfavourable effects of cosmetics as well as curative ones and the methods of preventing injury were studied. Contact dermatitis is the most frequent among the types of injury due to cosmetics. Contact dermatitis is usually evoked in a person whose skin is very sensitive. Perfumes, oils and fats, which are the chief components of cosmetics, are able to become the cause of contact dermatitis. Irritant and photodynamic action of perfume seems to play especially an important role in evoking dermatitis. It is still difficult today to prevent contact dermatitis completely due to cosmetics even if cosmetics are carefully chosen and the potential sensitizers are removed as possible.

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