

CONTINUING MEDICAL EDUCATION

DERMATOLOGY IN THE USSR IN 1976-1985

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The main trends and results of scientific investigations in dermatology in the USSR for 60 years were presented in the article,¹ and for 5 years (1976-1982) in the article.² The authors pay attention to peculiarity and effectiveness of the common state of struggle against venereal and infectious skin diseases, dispensary-system for care of patients with some severe dermatoses (psoriasis arthropatica, erythrodermia psoriatica, systemic scleroderma and lupus erythematosus, pemphigus and so on).

Numerous reports were made on pathogenesis and treatment of allergic diseases of the skin.

Using the model of contact dermatitis, authors³ have conducted studies on the evaluation of efficiency of various immuno-suppressive drugs. It was demonstrated that the most marked immuno-suppressive effect was observed with methotrexate. Prospidinum was able to suppress the development of sensitization only in high dose (10 mg/kg body weight). Using this drug in low dosage (1.5 mg/kg body weight) as well as of cyclophosphamidum enhanced allergic reactions of the delayed type. Tomizinum had no significant effect on the process of sensitization.

It has showed⁴ the possibility to work out the model of relapsing experimental allergic dermatitis, using application of allergens during 1.5-2 years. The main informative sign of relapse is the flare up reaction occurring at the

sites of extinct inflammation without local application of allergens. It has been suggested⁵ that this reaction may be used as a model for studying the main mechanisms of relapse in some chronic allergic dermatoses. It has shown the value of immuno-diagnostic and immuno-therapeutic methods in occupational pathology of skin.⁶ The questions of pathogenesis, clinical and prophylaxis of allergic dermatoses due to polymers,⁷ combined actions of vibration, concrete and cement,⁸ and drugs⁹ etc were studied.

A comparative study¹⁰ of various methods for early diagnosis of allergic dermatoses caused by formaldehyde-containing polymers, showed the leucocyte migration-inhibition to be the most useful test because it provides detection of sensitization to allergens in cases when the clinical features of the dermatosis are not yet clearly expressed. It has shown that the reaction of blast transformation is not specific, but it is a result of the action of toxic products of inflammation, with disorders of cell organelle.¹¹ It has established significant increase of IgE in the patients of eczema compared to healthy controls.¹²⁻¹³ It has reported¹⁴⁻¹⁶ functional deficiency of T- and B-systems of lymphocytes, degrees of active T-suppressors and urocanic acids in patients with atopic dermatitis. It has suggested a simple method to define urocanic acid in sweat in patients having itchy dermatoses. The method allowed to prognose relapses.¹⁶ It has showed¹⁷ a significant correlation between some isoantigens (ABO, MN and so on) and immuno-deficiency (dysgamma-

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globulinemia, deficiency of normal and induced antibodies, T cell and so on) in patients with eczema and neurodermatitis.

The prognostic importance of investigations of the isoenzyme spectrum of lactate dehydrogenase in the blood serum was emphasized in neurodermatitis.¹⁸

The high efficiency of the soviet cytostatic drug phosphazinum was stated in cases of allergic vasculitis of the skin.¹⁹ The results of assays²⁰ indicate the possibility that intradermal test with autologous lymphocytes and serum can be used as a test to judge the effectiveness of treatment of superficial allergic vasculitis of the skin. It has presented²¹ the data of comparative study of changes in ultrastructure of the skin vessels in patients with various forms of cutaneous vasculitis. The authors stated that the changes, swelling of the cytoplasm of endothelial cells, enlargement of mitochondria, an increase in the number of ribosomes, decrease of the width of the membrane and the subendothelial space were more marked in hemorrhagic vasculitis, than in chronic erythema nodosum. The changes in the endothelial cells are considered by the authors to be the reaction of the skin vessels in hyperergic inflammation and those in basal membrane as of an increased permeability of the capillary wall.

Clinical studies, which have been carried out over a long period of time,²² indicate, that the use of soviet pirogenic drugs ((pirogenalum, prodigiosanum) as well as methods of hyposensitizing therapy are effective in the management of allergic skin diseases. The data of the authors²³⁻²⁵ suggest that specific hyposensitizing therapy with bacterial allergens gives similar clinical results as prodigiosanum. According to the activation of kinin system, decompensation acetylcholine-choline esterase system in patients with neurodermatitis has elaborated the method of combined therapy with parmidin and spasmolitin.²⁶ It has studied ultrastructure of normal

skin and its distinctions in dermatoses in patients of different ages.^{27,27a}

Numerous investigations have been performed on the problem of surfactants. It was the importance of centralized control on surfactants production to avoid negative effect of them on the skin.²⁸ It has summarized the results of nearly two decades of dermatological control on surfactants production in the USSR. The authors have described unified method of clinico-experimental examinations of surfactants, which permits to evaluate the irritating, sensitizing and non-specific effects of the chemical substances and compounds.

Several articles carry information on psoriasis. The genetics of psoriasis has been studied in order to define the role of hereditary factors in the pathophysiology of the diseases.^{29,30} It has been determined that the segregation ratio of psoriasis ranges from 6.1 to 7.75%. It was consistent with monometric (autosomal dominant or recessive) mode of inheritance and led authors to the conclusion that the nature of psoriasis is multifactorial with heritability equal to 64-72%. Authors gave empirical evaluation of the repeated risk for siblings of probands, ranged from 4.7 to 19% depending upon different situations in geneology. Those values of empirical risk are recommended for use in medico-genetical consultations. It suggested the necessity to study the question if it is possible to diagnose the so called latent psoriasis. The method of autoradiography using of tritium-labelled thymidine was found unsuitable for this purpose as the statistically significant difference in the number of cells synthesizing DNA was found only between the psoriatic lesions and the normal skin.³¹

As an attempt to explain the role of neurological disorders in psoriasis, workers have examined the state of the nervous system in patients with psoriasis and found a number of diseases of it such as vegetative-vascular dysfun-

ction, neuroses and neuroses-like conditions.³² It has exposed a correlation between the disposition to disorders of psoriasis, cerebral insult and diabetes.^{33,34}

The so-called psoriasis pustulosa Zumbush is not a version of psoriasis but essentially a distinct systemic disease with marked signs of an immunoadgressive process, and if accompanied by arthritis, it is clinically close to rheumatoid arthritis.³⁵

The long term study showed high efficiency and low incidence of side effects of soviet anti-psoriatic ointment "psoriasinum."³⁶ Authors observed 1172 patients with widespread psoriasis. The complete clearing of the skin was achieved in 65.7% of patients, near complete clearing of the lesions in 20.5% of patients, and improvement in 9.4%. Treatment was ineffective only in 2.6% of patients. The side-effects (flare up of psoriasis) were observed in 1.7% patients.

There is evidence to suggest that in psoriasis hyperbaric oxygenation,³⁷ and inhibitors of phosphodiesterases^{38,39} may be effective, as also live measles vaccine,⁴⁰ interferonum,⁴¹ heparinum,⁴² hemodesis,⁴³ and hemosorption.^{44,46}

It has been recommended to include anti-relapse treatment with ultraviolet light, vitamin, pirogenal and sea water baths,^{47,48} and fito-vitamines⁴⁹ into the complex of prophylactic measures in psoriasis. Favourable results were achieved with PUVA-therapy with soviet furocumarinic drugs—berocsan, psoberan and others.^{50,52} Due to similarity of changes of microcirculation in patients with psoriasis and diabetes mellitus,⁵³ patients were recommended andecalinum and delminalum D for treatment of patients with psoriasis.⁵⁴ Positive clinical results were achieved in patients of psoriasis and psoriatic arthritis treated with comp-lamin, prolectin and non-steroid drug—naprosin.^{55,56}

Important work has been done on the problem of some other systemic diseases of the skin. To define the role of viral infection in the pathogenesis of scleroderma and lupus erythematosus, extensive electron microscopic investigations were carried out. There were observed tubulo-reticular structures in the endothelial cells of skin vessels from the lesions of scleroderma⁵⁷ as well as those in lupus erythematosus.⁵⁸ These structures are supposed to be identical to RNA filaments of paramyxoviruses.

It has established positive association between certain histo compatibility antigens (B-18 and B-40) and scleroderma,⁵⁹ and (B-12 and DR-4) and neurodermitis.⁶⁰

It was found that Hp 2-1 and Hp 2-2 phenotypes were associated with lupus erythematosus discoides and Hp 1-1 phenotype was related to SLE.⁶¹

Some methods (determination of content of oxyproline, serotonin and histamine, factors of immunity, bidigital vasomotor reaction to cold stimulation) may be used to judge the activation and intensity of the pathologic process in lupus erythematosus and scleroderma.⁶²⁻⁶⁶ Taking into account the reduction of activities of the kinin-system and blood circulation in patients with scleroderma and erythematosus, it was suggested to treat those patients with andecalinum⁶⁷ and essentials, which produced positive dynamics in lipid metabolism in patients with LE.⁶⁸

In some papers questions on the problem of bullous dermatoses were discussed. The methods of immunofluorescent diagnosis of bullous dermatoses has improved.^{66,69} It has been shown that immunofluorescent data were important for an understanding of the allergic nature of dermatoses and for differentiation-diagnostic purposes. It has presented the results of catamnestic of 42 children with dermatitis herpetiformis Dühring.⁷⁰ Complete improvement was achieved in 22 children. One child died of nephroso-nephritis. Dermatitis herpeti-

formis Duhring didn't transform into pemphigus and is considered to be a distinct entity.

Seventeen patients with various forms of epidermolysis bullosa hereditaria were examined by Lelis and Lelienc.⁷¹ Authors have shown the priority of the Russian physician Gruenfeld in describing the dominant form of epidermolysis which is as a rule, called after Cockayne-Weber.

It has been found⁷² in severe forms of pemphigus, giant lysed cells with unidentified microorganisms. Authors believe, that these microorganisms may take part in its pathogenesis as the cause of the so called cross reaction.

It has described a case of Reiter's syndrome in half brothers.⁷³ It has summarised the results of resortscure of patients with dermatoses.⁷⁴ It has presented some results of studying the problem of clinical course, immunological features and treatment of various forms of hemodermia.⁷⁵⁻⁷⁷ Data obtained from a large number of patients led the author to the conclusion, that reticulo-sarcomatosis cutis and mycosis fungoides are appurtenant to tumor processes due to progressively worse proliferation of reticular and histiocytic elements of the skin, appearance of not well-mature atypical cells with high metabolic activity. By the clinical evaluation of the methods of treatment of hemodermien (including reticulo-sarcomatosis cutis, mycosis fungoides, sarcoma Kaposi) it was found that soviet medicine "prospidinum" was the most effective (administrated in combination with a small dosage of corticosteroids).^{75,76,78}

The results of electron microscopic studies of pyoderma demonstrated the presence of altered forms of pyococci in chronic pyoderma, a high lytic effect of some antibiotics such as lincomycin, fusidin) on microbial cells. Some differences were also found in the ultrastructure of staphylococci depending on the nutrient medium and morphologic changes of neurophils, including the decrease of the number of cytoplasmic granules.⁷⁹⁻⁸¹

A high effectiveness in pyoderma has been established especially in antibiotic resistant and with allergic component, with new national antibiotics such as lincomycin, fusidin, cefalexin,⁸² durant sulfamide drugs such as sulfomonometaxin, sulfalen,⁸³ combined use of antimicrobial underwear with 4% hexachlorofen, new antibiotic erycycline and biostimulator-apilac.⁸⁴

A high effectiveness of complamin and diuciphon has been shown in scleroderma, psoriasis, Duhring's dermatitis, chronic pyoderma,^{86,85,86} of new soviet antihistamine drug—bicarphene in different dermatoses,^{87,88} and of cortic-like drug-glycyram,⁸⁹ herpetic vaccine and national antiviral agents in some viral dermatoses,^{90,92} desoxyribonuclease in the treatment of patients with lichen ruber planus,⁹³ PUVA-therapy for treatment of patients with lichen ruber planus,⁹⁴ lichen ruber pilaris Devergie,⁹⁵ alopecia areata,⁹⁶ vitiligo,⁹⁷ 50% prospidinum ointment of basalioma of the skin.⁹⁸

The method of laser therapy has been worked out for ulcera cruris of various etiology,⁹⁹ as well as that for skin neoplasms,¹⁰⁰ eczema, neurodermatitis, lichen ruber planus and others.¹⁰¹⁻¹⁰² There are a number of reports of the so called dermatitis perioralis which contain conflicting opinions on the nature of this dermatosis. It has been postulated that dermatitis perioralis is a distinct allergic disease which could be caused by the hypersensitivity to medicaments, cosmetics or other allergens.¹⁰³ In contrast to this, work considered it a version of rosacea¹⁰⁴ or a disease which in most cases is due to treatment with fluorinated corticosteroid ointments for some dermatoses of the face especially rosacea.¹⁰⁵ Dermatitis perioralis should thus be called fluorosteroid dermatitis of the face.¹⁰⁶ Favourable results were achieved in 87.5% patients having perioral dermatitis and acne rosacea by treatment with richopol or metronidazole.^{107,108} The method of

obtaining stable, highly sensitive and specific leishmanial antigens, and the effective method of treating leishmaniasis with 20% solusurmin has been elaborated.¹⁰⁹

Numerous studies were performed in the field of mycology. It has been established that there are no deep mycoses such as coccidioidomycosis and histoplasmosis in the USSR.¹¹⁰⁻¹¹² The authors believe that coccidioidomycosis "sui generis" should be considered as a chronic non-specific process which may be provoked by various bacteria and fungi (not of genus *Coccidioides*).

High sensitivity and specificity of reaction of immunofluorescence-80 for detection of candida antibodies in patients with candidosis has been shown in many cases.¹¹³ It has been established, that various strains of *Candida albicans* are producing candidocynes—substances which are of the type of bacteriocines.¹¹⁴

Comparative scanning electron microscopic study of different pigmented variants of *T. rubrum* (gypseum, velvet and lanosum) provided evidence that the most marked virulence of gypseum and more highly pigmented strains of fungus are connected with their more reproductive activity.¹¹⁵ Ultrastructure evidence of lympho-hematogenic dissemination in mycosis due *T. rubrum* has been introduced.¹¹⁶ New information has been presented on the structure of *Ep. floccosum* and *Candida albicans* obtained from culture.

The presence of fungal elements intra and extracellularly, penetration into deep layers of epidermis and into dermis was demonstrated in patients with epidermophytia inguinale and candidiasis with the help of scanning and transmission electron microscope.¹¹⁷⁻¹¹⁸

It has been shown that the natural reservoir of *T. gypseum* may not only be mice and wild rodents, but also domestic animals. For example, *T. gypseum* was isolated from 8% of the apparently healthy cats.¹¹⁹

"Umbesol" for the treatment of feet mycoses, "sulfochlorantin", "Chlordesin" and "Sapozok" for disinfection of foot-wear has been introduced.¹²⁰

An increase in the activity of enzymes of glycolysis and biological oxidation in the dermal vessels and the metabolic activity of its fibroblastic elements has been observed. In the opinion of authors, these data indicate sensitization of the patients.¹²¹

A correlation has been revealed between the feet mycoses, pathology of glandula thyroidea and occupational allergic dermatoses.¹²²⁻¹²⁴

The highly sensitive and specific indirect hemagglutination test was used for the detection of antibodies to keratinase-proteolytic enzyme of dermatophytes.¹²⁵

It has been shown that zoophilic trichophytosis due to *T. faviforme* could be controlled by vaccine TF-130¹²⁶ It has been estimated that heliobiological factors influence the epidemiology of dermatomycosis. The method of Judging the prognosis and morbidity of mycosis due to *M. canis* and *T. gypseum* has been elaborated.¹²⁷⁻¹³⁰ Modern immunologic studies in mycology abroad were summarised in the article.¹³¹

It has been reported on classification and clinical peculiarity of chronic generalized (granulomatous) candidosis.¹³²

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