SUMMARY & CONCLUSION

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Atopic dermatitis (AD) remains a puzzling disorder in which a variety of factors are involved in the initiation and evolution of the disease. These factors are the consequence of specific multiple abnormalities which could all together account for the etiopathogenesis of AD.

The term AD is now commonly accepted after a variety of synonyms. Although it opens to criticism it appears to be the best name of the disease. Recently, Rajka, 1983 proposed his own definition "Atopic dermatitis is a specific dermatitis in the abnormality reacting skin of atopic individuals, resulting in itch with its sequalae, as well as in eczematous inflammation".

The true incidence of AD could not be determined. Some new data reflected a raised incidence in infants and in cold and dry geographical areas. On the other hand , the occurence of the disease in hot and humid areas is also well known. Seen from a global aspect the real prevalence of AD has changed because more people than formerly now have access to medical

care. In addition, some environmental influences may also contribute to the increased occurence of AD. Discussing the different theories postulated for the etiopathogenesis of AD through analysis of the different data and correlation between these theories, could clarify the most supportive etiological theory.

The genetic theory was supported by the positive familial history being encountered in nearly all cases of AD and the association of AD cases with asthma, rhinitis and hay fever. The association of AD with other congenital defects with dermatological or systemic is one of the proofs given for this theory. The specific mode of inheritance in AD has not yet been defined. This was explained by the fact that what is inherited is not a skin disease but a tendency to pruritus which become evident on exposure of the skin to stressful internal or external environment.

The physiologic theory is generally governed by the dry skin of the atopic patients. Several factors were considered in explanation of such dryness for example decreased sweating, decerased TWL, decreased sebum, decreased cohesion between corneocytes,

epidermal vasculature changes and excessive sc: ling. Remissions and exacerbations of the disease wi1 ı seasonal variations is a good support of the pl /- siologic theory in atopic patients. Sweating p covo- king stimuli as physical exercise shows the im| ortance of sweat training therapy in AD, both are corr: lated positively with the physiologic theory. The e: idence of different surface lipids composition, as we: l as the isolation of staphylococcus aureus in high: r in- cidence could be attributed to the physiologic theory.

The autonomic imbalance theory with beta a: re- nergic blokade (Szentivanyis theory 1968) resu: ts in inhibition of beta adrenergic receptors, activ: tion of alpha adrenergic and cholinergic receptors. The beta adrenergic inhibition will result in incr: ased neurons excitability, decreased threshold of c: taneous itching and increased intracellular cAMP with : onormal cell proliferation and inhibition of epidermal mitosis. This will be manifested clinically by lichenif: cation and pruritus. The increased activity of the a: pha adrenergic receptors will activate the vascula: reac- tion and pilomotor smooth muscle reaction. Th: s is manifested clinically by different grades of p: llor, white dermographism (vascular theory) together with

follicular keratosis of the skin. The activa ion of cholinergic receptors will directly affect t e sweat glands with clinical presentation of oligo/an idroses with subsequent dry skin (physiologic theory) Accordingly, lymphocytes, polymorphonuclear l uco-cytes and even m st cells could be affected w th the changes in different enzymes and histamine. gE level was proved to be highly increased (Immu ologic theory). The most accepted explanation of th s theory is that the fundamental abnormality co ld be an inherited (genetic theory)or acquired defe t in adenyl cyclase enzyme being that identified t the beta adrenergic receptors. This could be happened with reduced synthesis, partial blockage and defec ive enzyme molecule.

The immunologic theory expanded several i muno-logical abnormalities in AD patients. Such a norma-lities are not only due to defects in the hum ral or cellular immunity or defects in autonomic bal nce but also they are more likely to be factors assoc ated with disease activity and severity.

The immunological mechanism necessitates he presence of an allergen. Several allergens w re

identified in atopic patients. Sun exposure, :oods inhalents, danders lipid solvents, irritants a ıd all factors leading to dry skin. The allergenical ly active material finds its way to the target ce ll where in the first stage it causes atopic sens .tiza- tion to be followed by atopic reaction. By at ›pic sensitization, the allergen enters through nat ıral portal to react with reagin forming cell. Rea ;in produced "fixes" to reacting cell (example mas : cell) containing inactive or bound mediator, for exa ıple, histamine. By atopic reaction, the antigen ag ıin enters by natural portal and contacts reagin f .xed to reacting cell. Antigen reagin reaction cau ses release of mediator for example, histamine c ›n- tained in mast cell granules. Mediator exerts pharmacologic effect on shock organ to cause s ymp- toms. Although IgE is the most common high immu ıo- globulin detected in AD, but there is no doubt that IgE antibodies and atopic anaphylactic suscept .bi- lity are a concomitant phenomenon of AD and nc : the fundamental disorder. IgE directly or inc .- rectly through abnormal immune regulation is c ›n- sidered to be responsible for a rapid start of itching, its continuity and/or persistence. A lso it shares in the production of the inflammato ı reactions of the skin with all its clinical ma ıi- festations known as late cutaneous reaction (J ıte

phase of the immediate type)of immunological r action.

This phenomenon is based on the release of ediators from surface of mast cells or basophils during an IgE - anti-IgE reaction. Different authors discusse the role of IgE in AD with several arguments again t and several arguments with, but no body could deny or neglect the role of IgE in AD. Reports on cha ges in other immunoglobulins are fewer but stating the marked increase of IgG, moderate increase of I M, normal value of IgA and decreased IgD levels.

The delayed hypersensitivity or cell mediat d immune response (CMI) in AD was long discussed Suppression of T cell function is the main fac or with all its results. Clinically it enhances he inflammatory process responding to exogenous a. ler- gens for example, viral,fungal and bacterial. Also (CMI) through T cell population versus IgE evel with resultant high proportion of lymphocytes l aving IgE bound to their membranes. Suppression of ' cell function also results in increased sensitivity of T cell to cAMP and histamine with all its clin: cal replications.

The vascular theory is positively argumented with the abnormal vascular responses to variety of stimuli rising from physiological, environmental, genetic or immunological factors, these reactions include skin pallor, changes in skin temperature, vasoconstriction tendency in areal circulation and white dermographism. Some altered pharmacologic reactions could be contributed to these vascular manifestations. Acetyl choline with an altered pharmacologic reaction result in the delayed blanch phenomenon which occurs frequently in patients with AD. Other altered pharmacological reaction in AD patients is recorded as with histamine prostaglandin, brady kinin, serotinin, kalikenin and catecholamine.

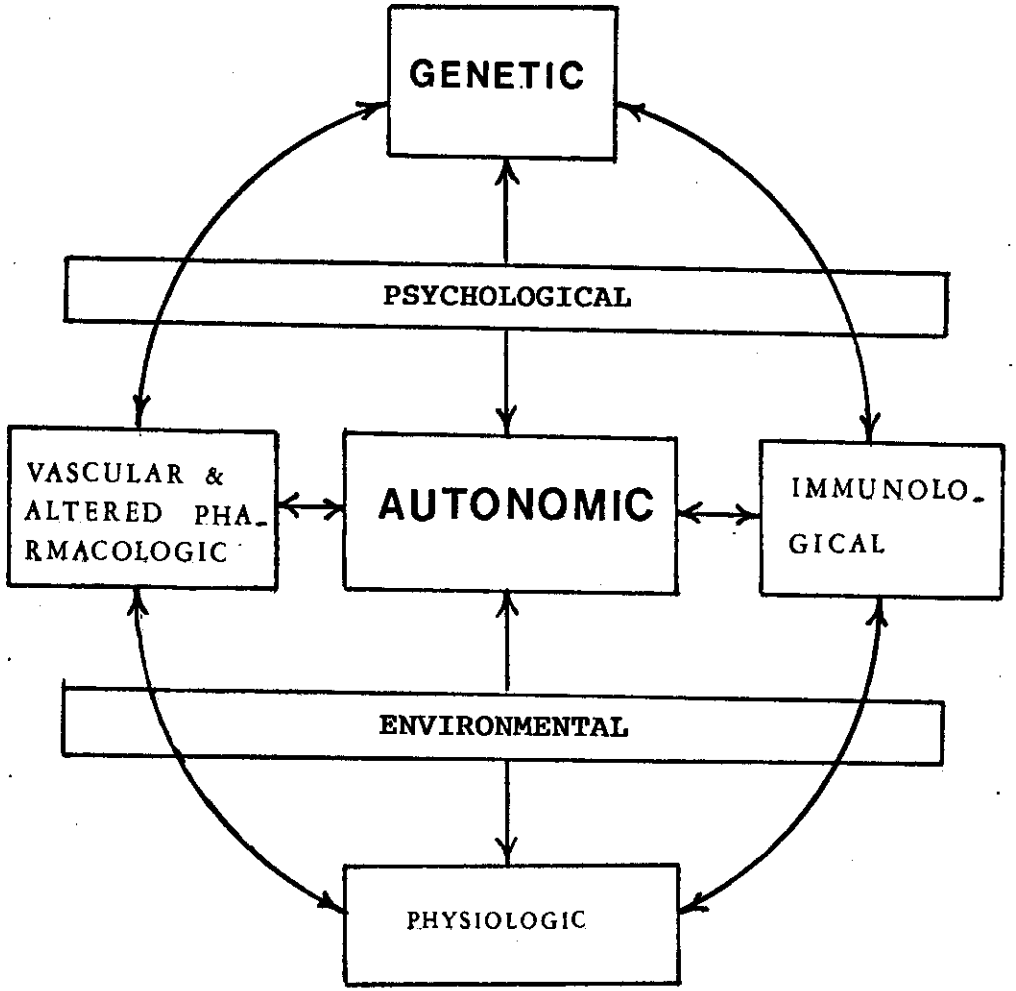
The psychoclogical theory plays some part in the initiation, aggrevation or perpetuation of the disease . The personality trait in AD was regarded in the past as a fixed and irrevocable feature. In fact, the personality deviation observed in AD is considered as a result not a cause. The role of maternal rejection in AD is not clear but it is of great importance in contribution to the severity of the disease. Theopsychological aspects

of AD were considered by some authors in the c ntexts of immunology, where emotional effects has pro ed to have a great incidence in the immune system an mani-fested in skin diseases.

Correlations between different lines of tre tment followed in AD and the etiopathogenesis of the disease revealed a very positive correlation supportin the multifactorial opinion in etiology of the dise se.

In conclusion, the etiology of AD could not be attributed to only one theory, but a group of heories correlated and interacting with each other can be considered the ideal etiopathogenesis of the d sease. These include the genetic, the physiological, he autonomic, the immunological, the vascular, th al-tered pharmacologic and the psychological. Th se theories act and/or interact with resulting im alance in the autonomic system presenting the main fe tures of the disease. This comes into conclusion th t the primary and predisposing is the genetic theory. The most mastering theory is the autonomic theory. The clinical manifestations of the disease are the direct expression of the autonomic disturbances. The ideal treating regime should include drug, supportiv and immunologic therapy.

CHART (11)



CORRELATION BETWEEN DIFFERENT ETIOLOGICAL THEORIES IN ATOPIC DERMTITIS