PSYCHODERMATOLOGY

GENDER-DEPENDENT IGE SENSITIVITY AND CORTISOL LEVELS INFLUENCE SEVERITY OF ATOPIC DERMATITIS AND COMORBID DEPRESSION

Tatyana Vinnik [1] - *Albert Pinhasov* [2]

Astana Medical University, Department Of General Practice, Astana, Kazakhstan [1] - *Ariel University, Department Of Molecular Biology, Ariel, Israel* [2]

Introduction: Atopic dermatitis (AD) is common psychosomatic disorder with a high rate of comorbid depression. Controversial results of hypothalamic-pituitary-adrenal axis activity and lack of research data regarding the contribution of gender and IgE sensitivity on disease comorbidity with depression justify further investigation.

Objective: We examined the effect of gender and IgE sensitivity on biochemical and endocrine parameters on dermatitis severity and comorbid depression in AD.

Materials and Methods: 105 volunteers (56 AD, 49 healthy controls (HC); 50 males, 55 females) were recruited in a single-center, case-control study in Astana, Kazakhstan. All patients were divided by gender and assessed for disease severity, serum IgE, cortisol levels, and depression scores at disease onset and after 10 weeks of dermatological treatment.

Results: Dermatological severity differed among male AD patients by IgE sensitivity and was elevated in males with extrinsic atopic dermatitis (EAD). Depression scores increased in all patients at disease onset and improved with symptom reduction to HC levels, except female EAD ($p<0.001$). Depression scores and severity of dermatosis were correlated in EAD males at baseline ($r=0.6534$, $p<0.01$) and at week 10 ($r=0.7358$, $p<0.01$). Thus, a link between IgE sensitivity and comorbid depression can be assumed.
Blood cortisol levels were elevated in male EAD at baseline, whereas in males with intrinsic atopic dermatitis (IAD) cortisol was elevated at week 10, demonstrating that IgE may impact cortisol regulation in AD. In addition, negative correlation between cortisol levels and severity of dermatosis in EAD males at week 10 ($r=-0.6154$, $p<0.05$) suggest gender-dependent IgE involvement in cortisol regulation and its influence on severity of AD.

Conclusion: The results of these findings implicate gender-related disease triggers IgE sensitivity and cortisol levels in pathophysiology of AD. A better understanding of the mechanisms underlying dermatosis and comorbid depression can help in its prevention and

design of better treatment protocols.