

ABSTRACT

Background: Atopic dermatitis (AD) is a chronic, relapsing skin inflammatory disease that affects the patient's quality of life. There is some flaw of corticosteroid as the cornerstone treatment of AD, especially for the chronic recalcitrant type, due to the side effects and high possibility of rebound. Leukotriene receptor antagonist (LTRA) which has been used for asthma and allergic rhinitis now has been developed for treating AD, based on the similar mechanism of inflammation in the atopic triad. Leukotriene is an inflammatory mediator that is thought to play role in asthma, allergic rhinitis, and AD. Urinary leukotriene E4 (U-LTE4) is the stable metabolite of leukotriene that can be found in human urine.

Purpose: This research aims to evaluate the role of leukotriene in various degrees of severity in AD patients by measuring U-LTE4 levels.

Methods: This is a descriptive cross sectional study. Twenty two AD patients at any age that came to the outpatient clinic in April-July 2017 and fulfilled the research criteria were grouped based on their AD degree of severity using SCORAD index, and measured their U-LTE4 levels using ELISA method.

Results: There were total 22 DA patients as study subjects, 7 of them were males and 15 females. Age varied between 2-51 years old. Based on SCORAD index, there were 8 subjects (36.36%) with mild degree, 11 subjects (50.00%) with moderate degree, and 3 subjects (13.64%) with severe degree. The mean of U-LTE4 levels in total subjects was 24.02 ± 11.02 pg/ml, meanwhile each mean of U-LTE4 level in mild, moderate, and severe degree based on SCORAD index consecutively were 16.43 ± 8.01 pg/ml, 27.45 ± 9.35 pg/ml, and 31.70 ± 15.17 pg/ml. The least U-LTE4 level belonged to the subject with mild degree of severity, which was 1.2 pg/ml, on the other hand the greatest U-LTE4 level was 41.1 pg/ml and belonged to severe degree of severity.

Conclusions: The mean of U-LTE4 level increases consistently with intensity of the degree of severity, and this finding supports previous study that leukotriene plays role in AD.

Keywords: *atopic dermatitis, urinary leukotriene E4 levels, degrees of severity*