

Correlation of C-Reactive Protein Levels with Severity of Chronic Urticaria

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Sir,

Chronic urticaria (CU) is a multifactorial disease; however, in a majority of patients, it is not possible to ascribe a specific etiology, which are termed 'idiopathic'. Autoimmunity has been implicated as a principal cause in 30-50% of these idiopathic cases,^[1] but it might not be the only cause. The activation of systemic inflammatory processes has gained attention in last few years.

In our study, 194 patients with CU of at least 6 weeks were enrolled after an informed written consent. Severity of CU was calculated from the sum of individual scores of various variables like number, size, frequency of appearance and duration of weals, severity of itching, and pharmacological treatment.

An equal number of age and sex matched controls, attending the Dermatology outpatient department (OPD) for insignificant complaints unrelated to CU was taken. Chronic medical disorders such as diabetes mellitus, hypertension, autoimmune diseases, liver diseases, malignancies and intake of medication for last 3 months was excluded on history.

In addition to routine investigations, C-reactive protein (CRP) levels were measured using particle coated latex agglutination method, from venous sample collected at the time of presentation with urticarial lesions. Autologous serum skin test (ASST) was performed in cases only.

The age of the patients in the study group ranged from 8-70 yrs with a mean age of 30.07 yrs $\pm$ 3.55. Out of the total 194 patients, 72 were males and 122 were females. Sixty seven patients had a positive ASST, accounting for 34.53% of the total patients of CU, as compared to 127 with a negative test. Severity of CU in ASST positive subjects than in ASST negative ones and the difference were statistically significant. The CRP levels in cases with positive ASST (5.81 ± 4.7068), were significantly higher than those with negative ASST (2.89 ± 4.8521) as well as controls (2.76 ± 4.5270) ($P_1 = 0.016$, $P_2 = 0.000$, and $P_3 = 0.502$). CRP levels also showed a positive correlation with severity of CU.

Our results were consistent with that found by Magen, *et al.*, who found higher CRP levels in ASST positive group (5.31 ± 2.74) as compared to that of ASST negative group (2.53 ± 1.27 ; $P = 0.029$) and control group (2.34 ± 1.38 ; $P = 0.003$).^[2]

Tedeschi *et al.*, and Takahagi *et al.*, also found significantly elevated levels of CRP which correlated with disease activity.^[3,4] Contrary to this, Lin *et al.*, found that CRP levels were negatively correlated with the extent of erythema in urticaria.^[5]

The elevated CRP levels found in our study point towards a systemic inflammatory response in CU. Whether this is a mere association or has a role in the pathogenesis is not clear. CRP, being an acute phase reactant, may enhance urticarial inflammation and thus disease activity in CU.

We concluded that autoimmune urticaria, a clinically more severe disease, is characterized by low-grade

inflammation. Thus inflammatory cascade may play a positive role in CU, paving the way for better understanding of pathogenesis and introduction of newer drugs.

References

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