CD4⁺CD25⁺highFOXP3 T regulatory cells frequency in chronic spontaneous urticaria


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Background: Chronic urticaria, a common distressing skin disorder, is idiopathic in up to 90% of cases and referred to as chronic spontaneous urticaria (CSU). About 30-50% of CSU patients have an autoimmune basis. Recent discoveries displayed a major role of the naturally occurring CD4⁺CD25⁺ regulatory T cells in autoimmune diseases. A new key finding that elucidates the role of Tregs in maintaining self-tolerance is that they specifically control their development and function.

Objective: Evaluate the frequency of peripheral CD4⁺CD25⁺FOXP3 (Tregs) in chronic spontaneous urticaria; and to determine whether it differs in patients with positive autologus skin test (ASST) from those with negative test.

Methods: Peripheral blood mononuclear cells (PBMCs) were obtained from 50 CSU patients and 20 healthy controls. Flow cytometric analysis was done using specific monoclonal antibodies recognizing CD4⁺, CD25⁺ and FOXP3⁺ markers.

Results: Percentages of circulating CD4⁺CD25⁺FOXP3 (Tregs) were significantly lower in CSU patients compared to healthy controls (median [IQR], 1.47% [0.71–3.12] vs 1.79% [1.15–4.00]; P = 0.05), whereas no significant difference (P = 0.112) was observed between ASST positive and ASST negative patients.

Conclusion: Our data revealed reduced frequency of CD4⁺CD25⁺FOXP3 (Tregs) in CSU patients whether ASST positive or ASST negative. These findings support the concept of immune dysregulation in this disease entity, and provide potential therapeutic approaches for the treatment of CSU by increasing CD4⁺CD25⁺FOXP3 (Tregs).

Chemotherapy induced cognitive impairment in hematological malignancies

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Background: Chemotherapy-induced cognitive impairment (CICI) is one of the most prominent side effect as it negatively impact activities of daily life of the patients. These problems can range from subtle to severe and last for months or years after treatment. As cognition is an important predictor of survival in patients with hematological malignancies, understanding factors that lead to CICI in hematological malignancies warrants attention.

Patients and Methods: A cross-sectional study that was conducted at Clinical Hematology Department in Ain Shams University Hospital during a period from March 2017 to September 2017. We studied the prevalence of cognitive impairment among treated patients with chemotherapy for hematological malignancy; and we described its correlation to demographic data and risk factors. Test of cognitive function has been done by Montreal Cognitive Assessment (MoCA).

Results: The average scores of Montreal test for all patients was 23.913 ± 3.997. Out of 150 patients with different hematological malignancies that finished their chemotherapy at least 6 month ago and underwent (MoCA); we found that 93 patients (62%) were cognitively impaired, CICI is more among patients that received parenteral chemotherapies and closely related to pre-medication comorbidities, all patients with Myelodysplastic syndrome (MDS) were cognitively impaired. Also There was a positive correlation between patients age and cognitive impairment, as mean age of patients with abnormal cognitive function was 51.151 ± 9.933 (p value <0.001).while Period of hospital admission was showing significant correlation with impaired abstraction function (p value 0.003), and number of chemotherapy cycles showed significant correlation with naming and orientation cognitive impairment (p value 0.029, 0.022 respectively). We found also that female patients had significant defect in naming component more than male (p value 0.009).

The type of chemotherapy regimen received was not significantly affected the overall cognitive impairment, but patients that had received velcade (bortezomib) based chemotherapy had significantly lower executive and abstraction function with (P-value 0.026). Patients who did not achieve remission at follow up have markedly significant lower scores of most of cognitive functions.

Conclusion and Recommendation: CICI is a major problem in patients with hematological malignancies post chemotherapy that can affect their quality of life so regular follow up of the cognitive functions in those patients for early intervention with proper management of risk factors are recommended.

Prevalence of allergens sensitization among adult chronic urticaria patients without other allergic diseases

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Background: Chronic Urticaria (CU) is a diseases characterized by occurrence of spontaneous wheels observed by the patient for more than 6 weeks duration. The prevalence of CU varies from 0.5-5% in adult population. This is a disease of complex etiologies with more areas to be explored by researches. Aim of the study: To detect the Prevalence of allergens sensitization among adult chronic urticaria patients without other allergic diseases Methods: This study is a cross-sectional case control study. 70 patients with CU without evident cause and 50 healthy control individuals were included in the study. Patients with any other allergic diseases (such as Asthma, allergic Rhinitis, Allergic Conjunctivitis, Drug Allergy, atopic Dermatitis, Anaphylaxis . . .), patients with other chronic or systemic