J Hematol Thrombo Dis 2017, 5:5(Suppl)
DOI: 10.4172/2329-8790-C1-006

Expansion of circulating follicular helper T cells and their phenotypes in Immune Thrombocytopenic Purpura and their relation to disease outcome

Sobhy E Kotb
Dubai Hospital, UAE

Background: Immune thrombocytopenia (ITP) is an autoimmune disease attributed to platelet destruction due to antibodies. Humoral immune response plays an important role in the pathogenesis of ITP that involves a complex interaction among antigen-presenting cells, T helper cells, regulatory T cells and B cells. It is well known that circulating T follicular helper (cTFH) cells play pivotal roles in autoimmune diseases and virus infection. However, the role of TFH cells remains unclear in the development and progression of ITP.

Aim: The current study was designed to find the possible role of circulating TFH, their phenotypes and cytokine profile (IL-21, IL-17 and IL-10)in the pathogenesis and outcome of ITP patients. Patient and methods: Twenty five age and sex matched healthy control and forty eight patients with chronic ITP were included; clinical examination and routine laboratory investigations were done. Serum cytokine levels (IL-10, IL-17, IL-21), estimation of reticulated platelets (RP) and flow cytometric analysis of circulating TFH (CXCR5CD4+) and their phenotypes (ICOS+/ and PD-1+).

Results: RP and cytokine levels were significantly increased in ITP patients compared to control group. The frequency of cTFH cells and its phenotypes (ICOS+/ and PD-1+)is significantly higher in chronic ITP patients compared to healthy controls, however, the percentages of CD3+, CD4+ and CD8+ cells were not significantly different. A positive correlation was observed between TFH cells and each of clinical manifestations, presence of platelet antibody, cytokine levels and (ICOS+/ and PD-1+) expression in ITP patients. After receiving immunotherapy, IL-10, IL17 and IL-21 serum as well as the frequency of cTFH cells, and its phenotypes.

Conclusion: TFH cells and their subtypes seem to be implicated in autoimmunity, and increased numbers are found in patients with ITP. Furthermore, the immunotherapy contributed to effectively reduce the frequencies of TFH cells and their producing cytokines. Therefore, TFH cell and associated important molecules would be new therapeutic targets directed at reducing TFH cell generation ameliorate disease manifestations in ITP patients in the future.

dr_sobhy118@yahoo.com