A STUDY OF CORRELATION BETWEEN PLATELETS AND LYMPHOCYTE SUBSETS IN SCLEROSIS

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Background: Systemic sclerosis (SSc) is an autoimmune disease characterized by vasculopathy, autoimmunity and widespread dermal and visceral fibrosis. There are existing evidence to support excessive platelet activation and their contribution to vascular function and fibrosis. Now we will focus on the immune role of Platelets in SSc.

Objectives: By analyzing the correlation between platelet and lymphocyte subsets, CD4+ T cell subsets and disease activity in patients with diffuse SSC (dcSSc)/limited SSC (lcSSc), and to explore the immune role of PLT in SSc.

Methods: The peripheral blood of 21 stable disease patients, 31 active disease patients and 20 healthy controls (HC) were collected. The clinical data and laboratory indicators of them were enrolled. The T, B, NK lymphocyte subsets and active group were detected by flow cytometry (FCM). The CD4+ T cell subsets contains Th1, Th2, Th17, Treg, Th1/Th2 and Th17/Treg. Non-parametric Kruskal-Wallis H test was performed on multiple independent samples. The correlation between variables was used by Spearman correlation analysis.

Results: The PLT, PCT, MPV, PDW in peripheral blood of the stable group and active group were significantly higher than the HC group (P<0.05). The amount of T cells in peripheral blood of active group were [1127.80 (796.66, 1363.79)], which was lower than the percentage of HC group [1246.44 (894.81, 1497.84)] and stable group [1428.59 (1179.09, 2222.88)]. There was a significant difference between active group and stable group (Z=8.694, P<0.05). The amount of Th cells of the stable group [198.48 (140.22, 302.97)] and active group [143.76 (89.00, 230.00)] were significantly lower than the HC group [224.81 (155.04, 350.51)] (Z=-6.94, P<0.05). The amount of Th cells of the stable group [888.11 (679.55, 1430.70)] and active group [848.20 (385.876)] were higher than the HC group [574.84 (493.22, 728.00)], the former was significant, there was significant difference between active group and stable group (Z=6.94, P<0.05). The Th17/Treg ratio of the stable group [0.18 (0.10, 0.34)] and active group [0.21 (0.13, 0.28)] were lower than the HC group [0.25 (0.12, 0.31)], there was significant difference between active group and HC group (Z=0.508, P=0.05). The ESR and CRP were positively correlated with PLT, PCT. The amount of Th cells and Th17 cells were positively correlated with PLT, PCT: The amount of Th2 cells and the ratio of CD4+ T/CD8+ T were positively correlated with PCT; There was a negative correlation between the ratio of Th1/Th2 and PCT; The amount of Th2 cells was positively correlated with MVP, and the ratio of Th1/Th2 was negatively correlated with MVP. Among these immune cells, NK cells was negatively correlated with MPV, and the ratio of Th1/Th2 and disease activity.

Conclusion: In scleroderma, NK cells are associated with the severity of the disease, and PLT affects the number of Th1/Th2, Th17, and disease activity.

REFERENCES:

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