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The relationship between hypertension and stem cell factor/c-kit in depressive patients

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Objective: To evaluate the relationship between hypertension and stem cell factor (SCF)/c-kit in depressive patients.

Methods: A total of 147 hypertensive patients from the Psychiatric and Neuropsychiatry Department of the Jiangning Second People's Hospital from February 2013 to December 2013 were divided into two groups according to the presence and absence of depression; control group (n=70, hypertensive patients without depression) and study group (n=77, hypertensive patients with depression). 37 cases from the study group were chosen for antidepressant therapy and were sub-grouped as the treatment group. Peripheral SCF/c-kit levels were measured by Enzyme-Linked Immunosorbent Assay. Circulating endothelin-1 (ET-1) and interleukin 6 (IL-6) in peripheral blood were determined by radio-immunity assay.

Results: The expressions of SCF/c-kit, ET-1 and IL-6 differed significantly between hypertensive patients with and without depression (SCF: 848 ± 22 vs. 917 ± 32 ng/L; c-kit: 11.9 ± 3.7 vs. 13.1 ± 4.1 μ g/L; ET-1: 165 ± 21 vs. 151 ± 17 ng/L; IL-6: 97.3 ± 12.1 vs. 86.2 ± 9.8 ng/L) (all $P < 0.05$). The expression of SCF/c-kit, ET-1 and IL-6 were significantly different prior and post treatment (SCF: 852 ± 19 vs. 873 ± 25 ng/L; c-kit: 11.4 ± 3.5 vs. 12.7 ± 3.1 μ g/L; ET-1: 166 ± 20 vs. 140 ± 15 ng/L; IL-6: 97.9 ± 11.4 vs. 46.5 ± 9.7 ng/L (all $P < 0.05$). Logistic regression analysis indicated that lower levels of SCF/c-kit, higher levels of ET-1 and IL-6 (OR/P value of 24.779/0.002; 79.998/0.001; 27.688/0.013; 198.343/0.000 respectively) were influencing risk factors of hypertension with depression.

Conclusion: Peripheral SCF/c-kit levels are significantly lower in hypertensive patients with depression than those without depression. After the antidepressant therapy, peripheral SCF/c-kit levels are increased in hypertensive patients with depression.

Biography

Muhammad Nabeel Dookhun is currently undergoing his MD in Cardiology at The First Affiliated Hospital of Nanjing Medical University. He is currently working with a team responsible to conduct basic and clinic research. So far, he has published several papers and has also been a member of several international medical organizations and also the Co-Founder of International Medical Hub.

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