Influence of stress on SD rats model of experimental autoimmune encephalomyelitis

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View from specialist: It is creative, and of certain scientific and educational value.

[ABSTRACT] Objective: To investigate the influence of stress on rat model of experimental autoimmune encephalomyelitis (EAE). Methods: SD rat models of EAE were induced by injection of guinea-pig spinal cord homogenate, then randomly divided into stress group (group A) and simple homogenate group (group B), which were intervened with different methods. Severity and incidence of EAE of the two groups were observed and compared. Rats were sacrificed after 3 weeks, levels of CD4⁺, CD8⁺ cells, and CD4⁺/CD8⁺ were detected. Results: Onset of EAE was observed in both groups 10 d after injection of guinea-pig spinal cord homogenate, but more severe and higher incidence was observed in group A (P<0.05). The count of CD4⁺ cells and CD4⁺/CD8⁺ ratio in group A was significantly lower than that in group B(P<0.05). But no significant difference in CD8⁺ count was observed between the two groups. Conclusions: Interference of stress can induce immunosuppression and promote progress of EAE in rats.

[KEY WORDS] Stress; Experimental autoimmune encephalomyelitis; Lymphocyte subpopulation