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运动训练对大鼠缺血性卒中后抑郁的发生及下丘脑-垂体-肾上腺皮质轴的影响 [点此下载全文](#)

[张一清](#) [朱晓军](#) [王 彤](#)

南京医科大学第一附属医院, 南京, 210029

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摘要:

**摘要目的:** 观察卒中后抑郁(PSD)大鼠行为学和下丘脑-垂体-肾上腺皮质(HPA)轴功能的变化及运动训练的干预作用。**方法:** 选用健康雄性SD大鼠, 随机分为5组: 假手术组、卒中组、抑郁组、PSD组、运动组, 采用线栓法制备缺血性脑卒中大鼠模型, 慢性不可预见性温和刺激和孤养法制备抑郁大鼠模型, 将以上方法相结合制备PSD大鼠模型, 运动组制备PSD大鼠并同时进行4周跑台训练。观察各组大鼠自发性行为学改变, 分别应用Western blot法和ELISA法测定大鼠HPA轴相关激素促肾上腺素释放激素(CRH)、皮质醇(Cort)的含量。结果: 旷场实验(OFT)测定结果显示, 抑郁组、PSD组大鼠水平评分和垂直评分减少( $P<0.05$ 或 $P<0.01$ ), 而且PSD组较卒中组与抑郁组减少更为显著( $P<0.05$ 或 $P<0.01$ ); 抑郁组、PSD组HPA轴激素CRH, Cort分泌亢进( $P<0.01$ ), 且PSD组CRH、Cort含量比卒中组与抑郁组增加更明显( $P<0.05$ 或 $P<0.01$ ); 运动组OFT得分增加( $P<0.05$ ), CRH, Cort的过度分泌降低( $P<0.05$ 或 $P<0.01$ )。结论: 脑血管损伤的病理基础和慢性应激引起的内分泌紊乱, 加重HPA轴亢进和抑郁症状, 运动训练可以调节HPA轴, 减少PSD的发生。

**关键词:** [脑卒中后抑郁](#) [下丘脑-垂体-肾上腺皮质轴](#) [运动训练](#)

Effects of exercise training on the incidence and hypothalamic-pituitary-adrenal axis function of ischemic post-stroke depression rats [Download Fulltext](#)

Department of Rehabilitation Medicine, First Affiliated Hospital, Nanjing Medical University, Nanjing, 210029

Fund Project:

Abstract:

**Abstract Objective:** To observe the changes in behavior and hypothalamic-pituitary-adrenal (HPA) axis function of post-stroke depression(PSD) rat model and the effect of exercise training intervention. **Method:** Healthy male SD rats were randomly divided into five groups: sham-operation group, cerebral ischemic stroke group, depression group, PSD group, exercise training group. Ischemic stroke rat model was established with reformed Longa method; applying chronic unpredictable mild stimulation and isolation feed were used to make the rat depression model; the combination of the above methods were taken to induce rat PSD model; rats in exercise training group took treadmill training for 4 weeks. The changes in spontaneous behavior of rats were observed and the changes of corticotropin-releasing hormone (CRH), cortisol (Cort) of HPA axis were investigated by using Western-blot and enzyme linked immunosorbent assay (ELISA). **Result:** The open field test(OFT) showed the behavior scores of vertical and horizontal movements in depression group and PSD group decreased ( $P<0.05$  or  $P<0.01$ ), in PSD group the scores reduced more than that in stroke group and depression group ( $P<0.05$  or  $P<0.01$ ); HPA axis hormones as CRH and Cort, in depression group and PSD group were hyper-secreted ( $P<0.01$ ), in PSD group secretion of CRH and Cort increased significantly than that in stroke group and depression group ( $P<0.05$  or  $P<0.01$ ). In exercise training group the OFT score increased ( $P<0.05$ ) and the CRH, Cort secretion reduced ( $P<0.05$  or  $P<0.01$ ). **Conclusion:** The pathological basis of cerebral vascular damage and endocrine disorders caused by chronic stress aggravated the HPA axis dysregulation and depressive symptoms. Exercise training could improve the HPA axis abnormalities and decrease the incidence of PSD.

**Keywords:** [post-stroke depression](#) [hypothalamic-pituitary-adrenal axis](#) [exercise training](#)

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