

基于 NMR 技术探讨丹红注射液对自发性高血压大鼠血清代谢物的影响^{*}

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摘要:目的 通过 NMR 技术探讨丹红注射液对自发性高血压大鼠血清代谢物的影响。方法 将 8 周龄的 SPF 级 SHR 大鼠实验大鼠随机分为两组: SHR 组(自发高血压大鼠组)、DH 组(丹红注射液对 SHR 大鼠干预组),另选同龄 Wister-Kyoto 大鼠(WEY 组)作为血压正常对照组,每组均为 6 只。治疗组给予丹红注射液,SHR 组给予同等剂量无菌生理盐水,均按 10mL/kg 体重大鼠腹腔注射给药,连续给药 28d。检测各组大鼠血压、心率等生理指标,并采用 NMR 测定各组大鼠血清中代谢物水平。结果 与 WKY 组比较,SHR 组合 DH 组大鼠心率、血压均有不同程度升高,结果有统计学意义;DH 组与 SHR 组比较,收缩压和舒张压均有降低的趋势,但差异无统计学意义;与 WKY 大鼠比较,SHR 大鼠血清中有 15 种代谢物水平发生了变化,其中 8 种降低,7 种升高;与 WKY 大鼠比较,SHR 大鼠血清中有 15 种代谢物水平发生了变化,降低有 8 种,升高有 7 种。结论 丹红注射液不能有效降低 SHR 大鼠血压,但能逆转大鼠血清中多种代谢物水平,改善体内环境,对机体产生保护效应。

关键词: NMR 技术;丹红注射液;自发性高血压大鼠;血清代谢物

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The Effect of DanHong Injection on the Serum Metabolites of SHR Based on NMR Technology

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Abstract Objective: To discuss the effect of DanHong Injection on the serum metabolites of spontaneously hypertensive rats (SHR). **Method:** The SPF SHR of 8-week-old experimental rats were randomly divided into two groups: SHR group and DH group (DanHong Injection intervention group of SHR rats), besides Wister-Kyoto rats of the same age were selected as the control group of normal blood pressure (WEY group), with 6 rats in each group. DH group received DanHong Injection and SHR group the same amount of aseptic saline solution, both of which were injected in the rat's abdominal cavity according to their weights (10mL/kg) and continuously administered for 28 days. Physiological indexes of blood pressure and heart rate were checked and the levels of metabolites in the serum of rats were measured by NMR. **Results:** The results showed that both the heart rate and blood pressure in SHR and DH group compared with WKY group elevated in different degrees, having statistical meaning. In the comparison between DH and SHR groups, the systolic and diastolic pressures all declined but the difference had no statistical meaning. Compared with the WKY rat, the level of 15 metabolites in the SHR rats' serum changed, among which 8 decreased and 7 rose. **Conclusion:** DanHong Injection is not effective in lowering the blood pressure of the SHR rats, but it can reverse the