

论著

鱼腥草素钠对BALB/c小鼠的急性毒性及其对细胞的损伤

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摘要 目的 探索鱼腥草素钠(SH)急性毒性及其对腹腔细胞的损伤作用。方法 观察BALB/c小鼠单次ip给予SH 50, 125和200 mg·kg⁻¹后的急性毒性反应及死亡情况, 并进行病理组织学检查。检测小鼠单次ip给予SH后血浆中组胺的浓度。将SH与小鼠腹腔细胞进行体外孵育, 检测乳酸脱氢酶(LDH)渗出和组胺释放。观察SH对人血红细胞的溶血作用。结果 小鼠单次ip给予SH后, SH 50 mg·kg⁻¹组没有观察到小鼠死亡, SH 200 mg·kg⁻¹组小鼠全部死亡, 死亡原因为肝充血。与正常对照组血浆中组胺浓度(45.8±9.6) μg·L⁻¹相比, 小鼠ip给予125 mg·kg⁻¹后0.5 h血浆中组胺浓度为(66.1±3.9) μg·L⁻¹, 明显增加(P<0.05)。SH 0, 32和128 mg·L⁻¹体外处理小鼠腹腔细胞, 上清中的相对含量LDH分别为1.2±1.1, 19.2±3.3和30.6±3.1, 组胺的浓度分别为36.5±9.0, 73.3±3.8和(82.7±3.6) μg·L⁻¹, 与正常对照组相比明显增加(P<0.05)。溶血实验发现, SH能够引起小鼠及人血红细胞显著的溶血现象。结论 SH对小鼠具有一定的急性毒性, 可引起小鼠腹腔细胞LDH和组胺的释放, 并且SH具有溶血作用。

关键词 [鱼腥草](#) [急性毒性](#) [溶血](#)

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Acute toxicity of sodium houttuifonate in BALB/c mice and its injury to cells

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Abstract

OBJECTIVE To evaluate the acute toxicity of sodium houttuifonate (SH) ip given to BALB/c mice and its injury. **METHODS** BALB/c mice were ip given SH 50, 125 and 200 mg·kg⁻¹ and the immediate reactions of the mice were observed. Cases of death were counted in SH groups. Histochemistry experiments were performed to observe changes of organs. The concentrations of histamine in plasma of mice were measured. Then the release of lactate dehydrogenase and histamine in peritoneal cells incubated with SH *in vitro* was measured. The effect of SH on human red blood cells was observed by the hemolysis test. **RESULTS** When BALB/c mice were ip given SH 50 mg·kg⁻¹, there were no death cases observed. Six of the ten mice died in SH 125 mg·kg⁻¹ group, accompanied by liver congestion. All the ten mice died in SH 200 mg·kg⁻¹ group. Compared with normal control (45.8±9.6) μg·L⁻¹, histamine content in plasma of mice in SH 125 mg·kg⁻¹ group was (66.1±3.9) μg·L⁻¹ (P<0.05). Moreover, when peritoneal cells were stimulated with SH 0, 32 and 128 ng·L⁻¹ *in vitro*, the concentration of lactate dehydrogenase was 1.2±1.1, 19.2±3.3, and 30.6±3.1 (P<0.01) and the concentration of histamine was 36.5±9.0, 73.3±3.8 and (82.7±3.6) μg·L⁻¹ (P<0.01), respectively. Furthermore, *in vitro* hemolysis experiment demonstrates that SH caused obvious hemolysis of human red blood cells. **CONCLUSION** SH can cause moderate toxicity when ip given to BALB/c mice, which

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