

## 天南星炮制减毒机制探讨(I)

投稿时间: 2012-09-12 [点此下载全文](#)

引用本文: 唐力英,吴宏伟,王祝举,赫炎,付梅红.天南星炮制减毒机制探讨(I)[J].中国实验方剂学杂志,2012,18(24):28~31

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基金项目:国家自然科学基金项目(30772788);中国中医科学院基本科研业务费自主选题项目(ZZ20090210)

**中文摘要:**目的:研究天南星炮制减毒机制。方法:通过小鼠急性毒性试验和家兔眼结膜刺激性试验比较天南星生品、炮制品、针晶及其不同提取部位的毒性;采用扫描电镜观察法研究炮制前后天南星饮片特殊草酸钙针晶的变化情况及明矾中相关离子对针晶的形态变化的影响。结果:急性毒性试验表明天南星针晶组LD<sub>50</sub>为42.53 mg·kg<sup>-1</sup>,生天南星粉末组LD<sub>50</sub>为1 062 mg·kg<sup>-1</sup>,天南星炮制品粉末组LD<sub>50</sub>为2 788 mg·kg<sup>-1</sup>。家兔眼刺激试验显示生药粉组和针晶组表现出轻度刺激和中度刺激,而其他各种提取物均无刺激性反应。电镜观察发现,天南星炮制前后饮片中的针晶超微结构发生了明显变化,经KAl(SO<sub>4</sub>)<sub>2</sub>·12H<sub>2</sub>O、AlCl<sub>3</sub>溶液浸泡12 h后,针晶尖端被破坏,而Na<sub>2</sub>SO<sub>4</sub>、KCl溶液浸泡后其形态基本没有太大改变,尖端依然存在。结论:天南星针晶是产生刺激性毒性的主要物质基础,天南星针晶的刺激毒性与其结构形态有关,明矾炮制减毒的机制可能是其Al<sup>3+</sup>加速破坏了草酸钙针晶的形态。

**中文关键词:**天南星 针晶 炮制减毒

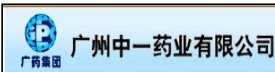
## Investigation of Attenuating Toxicity Mechanism of Processing for *Arisaema erubescens* ( I )

**Abstract:**Objective:To investigate attenuating toxicity mechanism of processing for *Arisaema erubescens*. Method: Toxicity of raw products,processed products,raphides and different extraction site of *A. erubescens* were compared by acute toxicity test in mice and rabbit conjunctival irritation test;Change condition of special calcium oxalate raphides and impact of related ion from alum on morphological change of raphides before and after processing of *A. erubescens* were observed by scanning electron microscopy. Result: Acute toxicity test results showed that LD<sub>50</sub> of raw products powder group,processed products powder group,raphides group of *A. erubescens* were 1062,2788,42.53 mg·kg<sup>-1</sup>.Results of rabbit conjunctival irritation test showed that raw powder group and raphides group had low and moderate irritation,but other various extracts had no irritation.Electron microscopy showed that ultrastructure of raphides occurred significantly change before and after processing of *A. erubescens*,and it was destroyed after soaked in KAl(SO<sub>4</sub>)<sub>2</sub>·12H<sub>2</sub>O or AlCl<sub>3</sub> solution for 12 h,but no big change after soaked in Na<sub>2</sub>SO<sub>4</sub> or KCl solution,the tip still existed. Conclusion: Raphides from *A. erubescens* was main material foundation of irritating toxicity,irritation toxicity of raphides from *A. erubescens* was related with its morphology, mechanism of attenuating toxicity of processed *A. erubescens* by alum was that Al<sup>3+</sup> may accelerate destruction of calcium oxalate raphides morphology.

**keywords:**[Arisaema erubescens](#) [raphides](#) [attenuating toxicity mechanism of processing](#)

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