

论文

附子不同配伍药对中生物碱成分的电喷雾质谱分析

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摘要:

以传统中医用药附子的配伍药对为研究对象, 考察附子与不同中药配伍对附子中生物碱的影响规律, 揭示配伍减毒的科学内涵。利用电喷雾质谱技术和内标法, 分别对生附子, 生附子加炙甘草、白芍、干姜、大黄共煎液和药渣中乌头类生物碱进行系统考察。与生附子相比, 双酯型生物碱在附子加炙甘草、大黄、白芍、干姜共煎液中的含量降低; 附子加炙甘草、白芍、干姜共煎液中的脂型生物碱含量增高。附子与炙甘草、白芍、干姜配伍的解毒机制是使毒性较大的双酯型生物碱转化为毒性小的脂型生物碱; 与大黄配伍的解毒机制是药物所含成分与附子中的双酯型生物碱络合生成难溶于水的复合物, 使双酯型生物碱的含量降低。本法对深入研究乌头属植物的配伍作用机制具有借鉴作用。

关键词: 附子 配伍 生物碱 电喷雾质谱

Analysis of aconite alkaloids in the combination of *Radix Aconiti Lateralis Preparata* with different herbs by ESI-MS spectrometry

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Abstract:

The method was established study the influence of different herbal combination with *Radix Aconiti* in the traditional medical formulae on content of the aconite alkaloids, for elucidating the scientific basis of reducing the toxicity of aconite in traditional Chinese medical formulation. The samples for ESI-MS study were prepared by decocting a mixture of *Radix Aconiti Lateralis Preparata* (RALP) with *Radix Glycyrrhizae Preparata* (RGP), *Radix Paeoniae Alba* (RPA), *Rhizoma Zingiberis* (RZ) or *Radix Et Rhizoma Rhei* (RERR), separately, and extracting the residue of the above mentioned mixtures after decocting. The diester-diterpenoid alkaloids (DDAs) was lower in the herb couples of RALP-RGP, RALP-RPA, RALP-RZ and RALP-RERR, and lipo-alkaloids was increased in the herb couples of RALP-RGP, RALP-RPA and RALP-RZ. The reason of reducing toxic effect principle is that the components of RGP, RPA and RZ have ester-exchange reactions with DDAs in RALP to produce lipo-alkaloids of low toxicity in the decocting process of the herb couples. The combination of RALP-RERR can reduce the content of DDAs in decoction and residue due to the formation of water insoluble alkaloid compound.

Keywords: compatibility alkaloid ESI-MS *Radix Aconiti Lateralis Preparata*

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