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School of 中醫藥學院
Chinese Medicine

Difference of Japanese traditional Kampo medicine and traditional Chinese medicine, and the marker compounds for quality control of crude drugs

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Abstract

Kampo (漢方) is Japanese traditional medicine derived from ancient Chinese medicine. After around 16 Century, medicine in each country have developed separately, and now the way of diagnostics, the origin, usage and dosage of crude drugs are quite different between the present forms of Kampo medicine and traditional Chinese medicine (TCM). In my lecture, I introduce their differences and the present condition of Kampo medicine in Japan. And as regards of the same topics of both traditional medicine, I introduce my research topics about the marker compounds used for quality control of crude drugs.

Xiaoqinglongtang (小青竜湯, shoseiryuto in Japanese) is a formula of both traditional medicine used to treat perennial nasal allergy, rhinitis, and bronchial asthma. Previous studies reported anti-allergic effects of xiaoqinglongtang, but the contribution of the eight crude drugs in the formula on these effects has not been evaluated. I evaluated the contribution of the eight crude drugs in xiaoqinglongtang on anti-allergic effect using passive cutaneous anaphylaxis (PCA) reaction in mice, and found that root with rhizome of *Asiasarum sieboldii* (細辛), tuber of *Pinellia ternata* (半夏), and root and stolon of *Glycyrrhiza uralensis* (甘草) contributed positively, and root of *Paeonia lactiflora* (白芍) contributed negatively to the anti-allergic effects of xiaoqinglongtang. I isolated mudanpioside E from the extract of *Paeonia lactiflora* root as the counteracting ingredient to exhibit the anti-allergic effects of *Paeonia lactiflora* root-depleted SSRT. When the composition of the formula is fixed by the regulatory policy, we can select *Paeonia lactiflora* root with less containing mudanpioside E, since this compound is not registered as the marker compound in Pharmacopoeia, and the content of mudanpioside E in commercial *Paeonia lactiflora* roots were largely varied. And as another topic, I introduce about processed aconite root (PA, the root of *Aconitum carmichaeli*, 附子) to prevent neuropathic pain in mice. The marker compound of PA is registered as benzoylmesaconine in Japanese Pharmacopoeia, however, its antipyretic effect is very week compared with mesaconitine containing in unprocessed aconite root. I isolated the active ingredient as compound X to prevent neuropathic pain using oxaliplatin-injected mice model. Compound X is different from these marker compounds, and the content of this compound in commercial PA were also largely varied.

The chemical ingredients described in textbooks of pharmacognosy are not always the active compounds but used as marker compounds for quality control. However, we would better determine the marker compounds of crude drugs by pharmacological effectiveness based on traditional medicine.