



MEDICAL THERAPIES AND PHARMACOLOGY

QUANTITATIVE ANALYSIS OF METAL CONTENT IN KOREAN HERBS AND HERBAL PRODUCTS

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Background: Herbs have been used worldwide as complementary and alternative medicines. In Korea, herbs for medical purpose are strictly controlled by the Korea Food and Drug Administration(KFDA). But it does not provide standards for metal antigens

Objective: We aim to measure the quantity of metal contents in Korean herbs and herbal products

Materials and Methods: Concentration of six metal allergens, beryllium (Be), cadmium (Cd), cobalt (Co), chromium (Cr), nickel (Ni), lead (Pb) were quantitatively determined using inductively coupled plasma with mass spectrometer (ICP-MS) after HNO3 digestion. The herbal objects are as follows; 1) ten kinds of herb plants, 2) ten herbal products sold in Korean drugstores, and 3) ten herbal extracts prescribed by Korean herbal doctors.

Results: Thirty samples, only Herb A (Angelica gigas root) was inadequate for the Cd standard limit of the KFDA. Ni and Cr were detected in all items. Co was not detected in two drugstore products. Be was detected in four herbal plants and one drugstore product. Pb was detected in nine herbal plants and six drugstore products.

Conclusions: Although the levels of metal detected in this study were very low relative to international guidelines and KFDA regulations, the herbal preparations contained similar or higher metal levels than known metal-rich foods. It can cause problems when it added to the daily diet and cause deterioration of skin lesions of metal sensitized person.



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