

Chinese Herbal Medicines — Manufacturing Flaws and Misuse

REFERENCE: Fraser DB: Chinese herbal medicines — Manufacturing flaws and misuse; *Forensic Sci Rev* 10:67–80; 1998.

ABSTRACT: Chinese herbal medicines are mixtures of botanical, mineral, and/or animal products. The medicines are either prepared by a herbalist for a specific patient or available over the counter in ready to use or decoct formulations. The number of literature references with regard to adverse effects from Chinese herbal medicines has grown dramatically in the last decade along with the increased use of these treatments. These adverse effects can be attributed to a variety of reasons. Intentional adulteration of herbal medicines with pharmaceuticals to substantiate medicinal claims has resulted in a number of serious adverse effects, including some fatal cases. Cases of metal intoxication have been reported from their use as active ingredients or their presence as contaminants. Substituting a more toxic herb for a benign one, either by misidentification or for economic gain, can also result in adverse effects. Variability in the natural products from differences in growing, harvesting, and storage conditions affects the concentration of active components. Changes in these concentrations make consistent dosing a problem, especially for those herbs with a low therapeutic index. Because the causes of adverse effects from Chinese herbal medicines are varied, each incident must be thoroughly investigated to determine the causes, the potential public health risks, and the ways to avoid similar incidences in the future.

KEY WORDS: Adulteration, Chinese herbal medicine, contact dermatitis, contaminants, metal intoxication.
