

HEAVY METAL TOXICITY OF SOME ASIAN MEDICINES IN THE UNITED KINGDOM

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Many traditional Asian Medicines and cosmetics have a useful role to play in the health care of the community. However, a number of these materials have been found to contain heavy metals, particularly lead. The metals are present either as contaminants, as is the case with Bal Jivan Chamcho, or by deliberate addition as is found in Surmas and Kushtay.

Bal Jivan Chamcho

This is a traditional Asian herbal baby tonic. It is supplied complete with a spoon and is activated by adding about 5 cm³ of milk or water. This is allowed to permeate through the preparation until it becomes coloured. The liquid alone is then administered to the child. The preparation is allowed to dry on the spoon in readiness for re-use. The same sample may be used for several months in this way.

A child suffering from lead poisoning was found to have been regularly dosed with Bal Jivan Chamcho, on analysis of the spoon it was found to contain 83% lead. This was being leached into the herbal compound which, in turn, was found to contain 1,040 ppm of lead, even previously unused samples had lead concentrations as high as 360 ppm from contamination by the spoons.

Following these results the Government has banned the import, sale and supply of this baby tonic.

Kushtay

These medicines are supplied by the traditional Asian Healers (Hakims) for treatment of sexual dysfunction. They generally contain heavy metals and are prepared as powders or pills. Of 37 samples of Kushtay analysed, 11 contained significant concentrations of mercury, lead and/or arsenic. The remaining samples had zinc, iron or copper as main constituents.

Because these materials are taken orally, the risk of poisoning is higher than with the Surmas and, in addition, ingested metallic lead is known to be a particularly toxic form of the metal to mammals.

Surma

This is a cosmetic applied to the conjunctival margins of the eyes. X-ray powder diffraction studies have shown the presence of lead as lead sulphide and quantitative analyses using atomic adsorption spectroscopy has found lead concentrations as high as 86% (pure lead sulphide). A number of Surmas also contain menthol which induces lachrymation. This, in turn, causes the child to rub his eyes and then, invariably, suck his fingers. This lead is, thus, ingested and the use of Surma is reflected in an increase in the level of lead in the blood.

The ingested lead sulphide appears to react with the hydrochloric acid in the gastric juices and lead chloride is formed. This results in a marked increase in solubility of the lead material. Measurements of particle size of the Surmas, made by electronmicroscopy, have shown a high proportion of particles to be much less than 100 microns, which will also aid absorption of lead.