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Preventive effect of Coriandrum sativum (Chinese parsley) on localized lead deposition in ICR mice.

Aga M, Iwaki K, Ueda Y, Ushio S, Masaki N, Fukuda S, Kimoto T, Ikeda M, Kurimoto M.
Hayashibara Biochemical Laboratories, Inc., Fujisaki Institute, 675-1 Fujisaki, Okayama 702-8006, Japan.

The preventive effect of Coriandrum sativum, Fam. UMBELLIFERAE (Chinese parsley) on lead deposition was investigated in male ICR mice given lead (1000 ppm) as lead acetate trihydrate in drinking water for 32 days. Administration of Chinese parsley to mice by gastric intubation was performed for 25 days from day 7 after the start of lead exposure up to the end of the experiment. The mice were then sacrificed for comparison of lead distribution. The lead reached its highest concentration in the femur but localized lead deposition in the femur was significantly decreased by meso-2,3-dimercaptosuccinic acid (DMSA), a chelating agent used as a positive control to validate this experimental model. Administration of Chinese parsley also significantly decreased lead deposition in the femur and severe lead-induced injury in the kidneys. In addition, urinary excretion of delta-aminolevulinic acid (ALA) which is known to increase with lead intake was significantly decreased after administration of Chinese parsley. The MeOH extract of Chinese parsley also reduced lead-induced inhibition of delta-aminolevulinic acid dehydratase (ALAD) activity in vitro. These results suggest that Chinese parsley has suppressive activity on lead deposition, probably resulting from the chelation of lead by some substances contained in Chinese parsley.

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