

105 MASSIVE STRYCHNINE INTOXICATION: CLINICAL, PATHOLOGICAL AND TOXICOLOGICAL FEATURES OF A FATAL CASE. Heiser JM, Magnusson AR, Daya MR, Allen DW, Krasselt W, Norton RL. Oregon Poison Center, Oregon Health Sciences University, Portland, OR, 97201.

A 51-year-old male ingested 4.8 gms of strychnine in a suicide attempt. In the Emergency Department 15 minutes later, the patient had a generalized seizure and was immediately intubated, lavaged and given activated charcoal with cathartic. Muscle twitching and seizures continued for the next 48 hours and were treated with diazepam, pancuronium and phenobarbital. The initial course was complicated by severe acidosis (pH 6.81), bradycardia, hypotension, hypocalcemia (7.6mg/dl) and prolongation of EKG intervals (PR, QRS, QT). Following correction of these abnormalities, the patient was transferred to the ICU. No further acidosis occurred and renal output was maintained by aggressive diuresis. Urine and blood toxic screens were positive for strychnine only. Gas liquid chromatography with flame ionization detection was used to measure strychnine. The initial blood level 30 minutes post ingestion was 3.8 mg/l with a simultaneous urine level of 0.1 mg/l. Serial blood levels showed a linear decline consistent with first order elimination with a half-life of 10.8 hours. The blood level at 18 hours was 1.2 mg/l and strychnine was detectable as long as 38 hours post ingestion. Despite aggressive supportive care, the patient did not awaken and an EEG done 6 days post ingestion showed generalized slowing consistent with severe diffuse encephalopathy. Following death on day 8, postmortem examination showed diffuse necrosis in the cortex, thalamus and inferior olivary nuclei. Strychnine poisoning is rare and death can usually be prevented if ventilation and spinal seizures are controlled early. Pharmacokinetics studies in this case confirm rapid absorption, first order elimination kinetics and minimal urinary excretion. Massive intoxications may result in prolonged symptoms and death despite aggressive supportive care and currently recommended anti-convulsant therapy.

106 SEVERE CYANIDE POISONING FOLLOWING SUICIDAL INGESTION OF ACETONITRILE. Turchen SG, Manoguerra AS. San Diego Regional Poison Center, UCSD Medical Center, 225 Dickinson St., San Diego CA 92103.

A 39 year-old female ingested 60 ml of 99% acetonitrile. She was found, vomiting and lethargic, 8 hrs post-ingestion. On arrival her pH was 7.48, pO2 126 (room air), pCO2 37, anion gap 17. Blood cyanide (CN) was 313 mcg/dl and ethanol was 0.15 gm/dl. She was lavaged then admitted to ICU. 3 hrs later she became unresponsive, then seized. Her pH was 6.84. The Lilly CN antidote kit was given. While the Na nitrite was infused her BP fell to 70 systolic, but she quickly improved after receiving the kit and 178 meq of Na bicarbonate. She received antidotal therapy on three more occasions, occurring at roughly 8 hr intervals. Each time she had deteriorating vital signs and acidosis. These episodes coincided with rising CN levels. CN levels fell rapidly after each dose of Na thiosulfate. By 3 days post-ingestion symptoms required no further antidotal therapy, but CN levels had risen to 1,049 mcg/dl and thiocyanate was 11 mg/dl. Hemodialysis and charcoal hemoperfusion were performed and thiocyanate fell to 3 mg/dl. Acetonitrile levels could not be obtained. Her CN level peaked at 1,176 mcg/dl shortly after dialysis, then fell rapidly. The patient made a complete recovery.

107 IDENTIFICATION OF INSECTICIDE CHALK IMPORTED FROM CHINA. Marti, R. Texas State Poison Center, University of Texas Medical Branch, Galveston, TX 77550.

"Miraculous Chalk" has been imported from China as an insecticide for the home extermination of cockroaches. This product has been distributed and located nationwide. It has also been identified under the name of "Shock". The solid white insecticide comes in a form that looks like blackboard chalk. The information listed on the container is in Chinese and English. No ingredients or warnings are listed, but it claims to be harmless to humans and animals. Samples sent to the EPA were analyzed by HPLC and identified to contain deltamethrin (percentage not reported). Another lab reported chlordimeform as a possible co-ingredient in one sample. This was not verified by the EPA. Deltamethrin is a high potency pyrethroid contact insecticide used for insect control in agricultural crops. It also has good residual effect for indoor and outdoor home insect control due to its stability upon exposure to air and light. However, human exposure has demonstrated only mucous membrane burning and irritation. Excessive doses in rats has lead to salivation, acidosis, tonic seizures, hypotension and death. Partial antagonism to these symptoms was noted with the use of atropine in rats. Numerous informational and oral ingestion calls have been received and identification has proved difficult. A sample of the product will be presented.

108 SUBACUTE HOME CHLORDANE POISONING: FACT OR FALLACY. Spyker DA, Bond RR, Jylkka M, Bernad PG. Pharmaceutical Research Associates Inc, Charlottesville, VA 22901; Neurology Services Inc. 10721 Main Street, Fairfax, VA 22030.

Chlordane and heptachlor (C/H), currently the subject of a "no US distribution" agreement between Velsicol and the EPA, has been the termiticide of choice in the US since the 1940's. Due to its chemical stability, C/H persists in approximately 70% of the homes in the US. Unquestionably a potent neurotoxin and animal carcinogen, the frequency and severity of injury from inhalation exposure in the home remains unresolved. We report on 68 of the patients living in 30 domiciles from 9 states whom we have examined with a chief complaint of chlordane exposure in their home. Their age ranged from 2 to 63 with a mean of 33 years. Symptom frequency was: headache in 67%, GI difficulties in 63%, fatigue 62%, memory deficits 57%, personality changes 54%, decreased attention span 52%, numbness or paresthesias 45%, disorientation 36%, loss of coordination 30%, dry eyes 25%, and seizures in 8%. EMG was abnormal in 5 of 23 (22%), current perception threshold in 2 of 11 (18%), electronystagmogram in 8 of 13 (62%), and neuropsychiatric testing in 9 of 16 (56%). Adipose biopsy in 22 patients showed C/H metabolites in the 11-73 percentile of adult normals, but ratio of C/H to DDT + metabolites ranged from 0.5-35 with a mean of 4.1 (1 expected).

Our patients thus exhibited an elevated C/H body burden relative to DDT and our findings support the presence of a neurotoxic syndrome with home C/H exposure.