

in West Pakistan due to the consumption of seed wheat dressed with agrosan GN, an organic mercurial compound, is described. Agrosan GN is a mixture of phenyl mercury acetate and ethyl mercury chloride. Of 34 patients admitted to the hospital, 4 died and 5 seriously ill were removed by relatives and may also have died; the illness among the remaining 25 patients was mild in 14, moderately severe in 7 and severe in 4. Typically the earliest symptoms were malaise and lethargy followed in a few days by nausea and vomiting, excessive thirst increasing weakness and burning in the mouth and stomach. The patient was irritable, had difficulty walking, had slurred speech and was confused. In the more severe cases, the condition progressed to an inability to stand, greater disability in speech and swallowing, blindness and extreme confusion and finally to coma, spasticity and death. Necropsy was performed in one case, and the findings were consistent with chronic mercury poisoning, the organs chiefly affected being the gastrointestinal tract and kidneys. All but 3 patients in the series were treated with British anti-lewisite (BAL), and of those who were treated, all except 3 made an appreciable recovery. On this basis it is concluded that BAL is an effective antidote and deserves a trial as such. The suggestion is put forward that coloring seed grain treated with mercurial compounds or giving it an unpleasant smell or taste would help prevent such outbreaks in the future.

-- Can. Med. Assn. J. Absts.

- 356 On Estimating Threshold Limits For Mercury in Biological Material. M. Berlin
Acta Med. Scand. 173, Suppl. 396, 29pp. (1963).

This monograph is a summary of work which was published in 1962 and 1963—supported by the Karolinska Institute and the Swedish Medical Research Council. A sketch on occupational exposure to mercury and the basis of MAC values precedes a lucid discussion of the experiments on the fate of absorbed mercury and other relevant publications. Diagnostic indices of exposure and retention are then explored. The distribution of mercury and cumulation in critical organs is very clearly illustrated by autoradiograms of sagittal whole-body sections of mice at intervals of 20 minutes to 16 days after an injection of 0.5 mg. mercury per kg. as the chloride, as the phenylacetate or as the methyl-dicyandiamide—labeled with Hg-203. Accumulation in the testis and parts of the brain is demonstrated 16 days after the inorganic salt, and an enlargement shows cerebral details after the alkyl compound. In acute exposure the kidney and liver accumulate much mercury. With chronic moderate exposure the brain and testis are critical organs. Urinary excretion may reflect recent exposure—but not retention. As indices of body retention, biopsies of skin, liver, kidney or colon mucosa may serve—or even tongue scrapings or toe-nail clippings. It would be worth correlating such concentrations of mercury with signs of mercury intoxication.

-- Bull. Hyg.

- 357 Determination of Mercury in Urine by X-Ray Spectroscopy.
E. J. Brooks, O. R. Gates, and M. Norringham, Jr. Am. J. Clin. Pathol. 41, 154 (Feb. 1964).

The mercury content of urine was determined quantitatively by x-ray spectrochemical analysis in a fraction of the time required by classical procedures. Measurements were made on concentrations as low as 3 micrograms of mercury in 100 ml. of urine (one tenth the clinically maximum allowable concentration). The organic matter is destroyed with potassium permanganate in a sulfuric acid solution of the sample. The mercury is precipitated as the sulfide with thioacetamide in the presence of copper as a collector. The precipitate was collected on a millipore filter and directly analyzed in the x-ray spectrometer.

-- J. Am. Med. Assn. References & Reviews

- 358 Radiometric Analysis of Triphenyl Tin Acetate in the Metabolism of Plants and Animals.
J. Herok and H. Goette. Intern. J. Appl. Radiation Isotopes 14, 461-479 (Oct. 1963). German.

Triphenyl tin acetate is distinguished by an outstanding fungicidal action and is, therefore, used as an active ingredient of the plant protection agent Brestan. Since little is known about the behavior of tin-organic compounds in the metabolism of plants and animals, the question of absorption, passage, and accumulation was examined by means of a radio-active-labeled ingredient. Descriptions are given of triphenyl tin acetate (Sn-113) preparation,

03121417